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SCHOLASTIC COACH

APRIL, 1933

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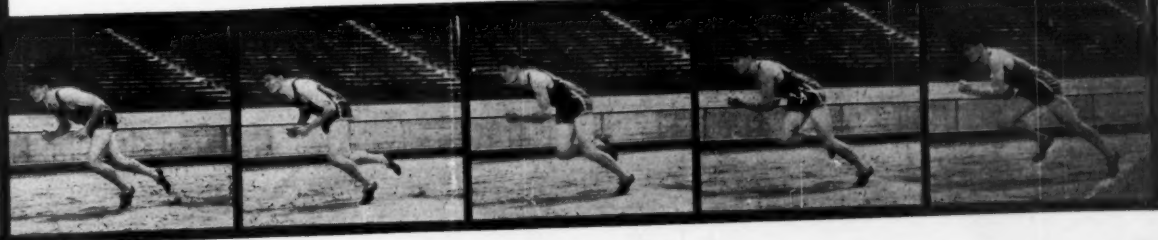
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REACH

BASEBALL EQUIPMENT

Sportsmanship Brotherhood Announces 1933 Contests

The annual Sportsmanship Brotherhood contests for high school students in the design and execution of posters, and the writing of essays of 1500 words or less, on the subject of sportsmanship, has been announced by Daniel Chase, executive secretary of the Brotherhood. A third division in the contest is for high schools that conduct campaigns or arrange programs for the promotion of sportsmanship among players, students and spectators at athletic contests.

Schools desiring to enter the program division should submit a written outline of their programs, with any other material bearing on the program, to Mr. Chase at the national headquarters of the Sportsmanship Brotherhood, Room 369 McAlpin Hotel, New York, N. Y.

The poster and essay divisions are open to all high school students. Entries must be mailed to Mr. Chase no later than May 13. Posters may be in any medium, and are not restricted in size. Both poster and essay entries must be accompanied by a statement from the principal of the school, the English instructor, the art instructor, or the coach, testifying that the work is original with the student, and done solely by him.

For further information, address Mr. Chase at the address given above.

For outstanding work in the development of sportsmanship at the sixth annual small high school basketball tournament, a certificate was awarded to Massachusetts State College, sponsors of the tournament, by the Sportsmanship Brotherhood. "The work that this college has done in developing good sportsmanship among spectators and players is absolutely the finest that I know of in America," said Mr. Chase. "It could well serve as a model for sponsors of other high school tournaments, whether they be college sponsors or state or district high school athletic associations."

The second annual conference of high schools and private preparatory schools on the subject of sportsmanship will be held at New York University on Saturday, April 29, under the auspices of the Sportsmanship Brotherhood.

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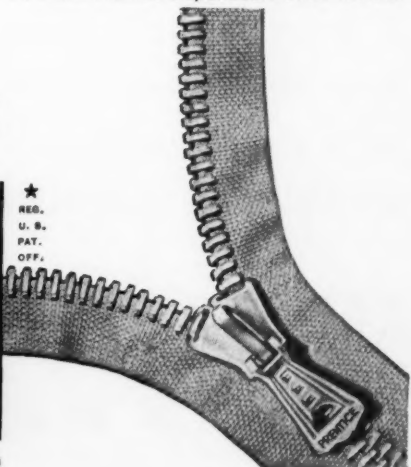
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T H E C H O I C E O F C H A M P I O N S

National Federation Elects E. R. Stevens



NEW PRESIDENT OF HIGH SCHOOL BODY

THE annual meeting of the National Council of the National Federation of State High School Athletic Associations was held at Minneapolis on February 27, 1933. Seventeen of the member states were represented at this meeting. This constituted a bare quorum necessary for the transaction of business, since the constitution provides that a majority of the member states must be represented to constitute a quorum competent to transact business. Thirty-three states are members of the Federation.

The rather small attendance at Minneapolis is unquestionably due to the inability of the various state athletic associations to meet the expenses of delegates to the meeting. The attendance has grown progressively smaller since 1930 when there were 27 voting delegates at the Atlantic City meeting. In 1931 there were 23 at Detroit and last year there were 19 at Washington.

The two matters of primary importance that were before the Council at this meeting were:

1. The consideration of the attitude the National Federation should take relative to representation on the various rules writing committees.

2. The election of officers.

Preceding the meeting, the Executive Committee had discussed the problems connected with representation on the rules-writing committees at great length and had adopted a series of recommendations relative to the attitude which the Executive Committee thought should be taken. These recommendations were:

1. That the National Federation should not accept any invitations to advisory membership on any of the committees.

2. That the National Federation should accept invitations to active rep-

SPORTSMANSHIP BROTHERHOOD CONTESTS

NATIONAL FEDERATION ELECTS STEVENS C. W. Whitten

EDITOR'S RUMINATIONS

LETTERS TO THE EDITOR

TRACK AND FIELD THE YEAR ROUND

BASE-RUNNING AND SLIDING

Bennett Levy

BASEBALL BIBLIOGRAPHY

FAST CINDER TRACKS

SPECIFICATIONS FOR FIELD ACCESSORIES

J. Lyman Bingham

1933 PRO FOOTBALL RULES

CHARLEY PADDOCK WRITES IT OUT

ORIENTATION OF ATHLETIC FIELDS

Gavin Hadden

THE TENNIS INSTRUCTOR

Paul Bennett

NEW BASKETBALL RULES BODY

SUMMER COACHING SCHOOL SECTION

18, 19, 20

GUIDING BOY-GIRL CONDUCT

Newell W. Edson

TEACHING GOLF

Bill Jones

JACK LIPPERT, Editor

resentation on the various committees and that we should name delegates on such committees to the extent of our ability to finance them.

3. That all active representatives of the National Federation upon any of these committees should be subject to exactly the same financial terms as other active members of the committees.

After rather brief discussion all of these recommendations were adopted by a substantial majority and they now stand as the official attitude of the National Federation on this particular problem.

The election of officers had become a matter of considerable importance due to the death of former president George Edward Marshall of Davenport, Iowa. Mr. Marshall had been the only president ever elected by the National Federation and considerable concern was expressed as to his successor. As matters developed, however, it proved that there really was no occasion for concern because all three men nominated for the position were of the highest type, men who have long been associated with the Federation and had made countless personal sacrifices for the promotion of the Federation work. The three men nominated were: Mr. L. L. Forsythe of Ann Arbor, Michigan; Mr. W. J. Baird of Birmingham, Alabama, and Mr. E. R. Stevens of Independence, Kansas. As a result of the balloting, Mr. Stevens of Kansas was elected

and upon motion his election was made unanimous.

By acclamation Mr. Baird was continued in the office of vice-president.

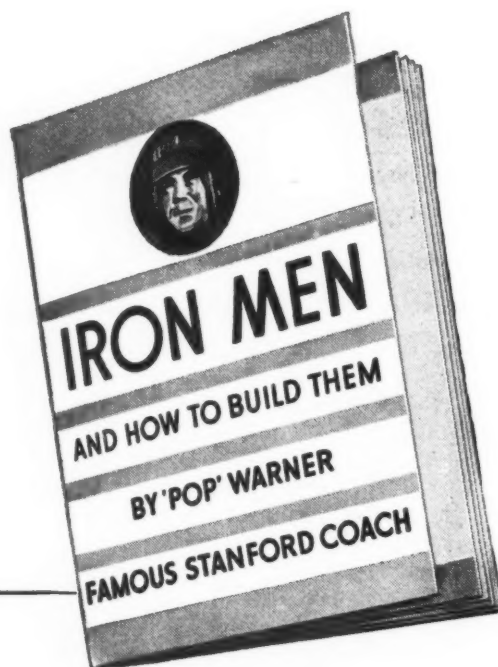
As new members of the Executive Committee, Mr. G. A. Chamberlain of Milwaukee was elected for a two-year term to fill vacancy and Mr. W. B. Spencer of New Haven, Connecticut, was elected for a full term of three years. At a later meeting of the Executive Committee Mr. C. W. Whitten of Chicago was continued in the office of secretary-treasurer.

Upon motion of the secretary, the following statement of appreciation of the character and services of the late George Edward Marshall was unanimously adopted by the Council:

"From the first organization of the National Federation of State High School Athletic Associations on May 14, 1920, until his death on Dec. 7, 1932, Mr. George Edward Marshall served as president and exerted a guiding influence upon its policies and ideals. Possessing as he did a keen insight into problems of secondary education and of high school administration, a sympathetic understanding of the ambitions and enthusiasms as well of the occasional aberrations of high school boys, a perfectly clear discernment of the values and the dangers of interscholastic athletic competition, he was superbly qualified for the leadership of a movement de-

(Concluded on page 17)

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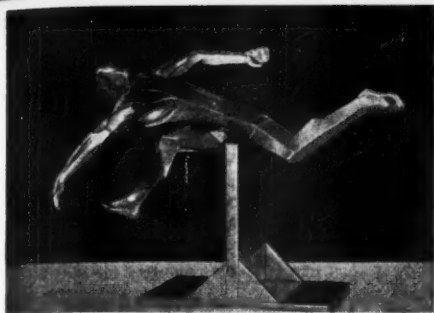
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Pierre Toulgouat*

THE criticism often made of American youth is that their sense of social consciousness is undeveloped. This condition is said to be what breeds the strains of narrow patriotism, religious bigotry and distorted appreciation of other values, which are commonly found in them after they have taken their places as citizens and adults in a society crying out for salvation from just this sort of citizen.

Maybe youth have grown up in this way because we have not known how to educate them to think out and beyond. Perhaps we have been just as smug about our educational procedure as we were about our banking methods. The real leaders in education today are the men and women who are questioning the accepted practices and are looking within the doors of classrooms (and the gates of the athletic fields) for the fundamental cause of that kind of mentality which keeps us still clinging to faith in the principle of rugged individualism. We are a little less trustful of this principle than we were a year or more ago, but the indignation against it still seems to be comparatively mild.

ENVIALE POSITION OF THE COACH

AMONG the most fervent opponents of every-man-for-himself rugged individualism ought to be the coaches and directors of athletic team games, play-acting, orchestral and band music and other group projects undertaken in secondary schools. Here, in these activities, the rugged individualist who does his climbing by tramping on the fingers of those coming up below him (there is no other kind), is conspicuously out of place. No coach would have him. Yet, these activities, like the larger life in the world of adulthood, present the opportunity for individual expression, with due regard for the objective at which the group is aiming.

The coach is in an excellent and enviable position for developing a social attitude and a disposition to contribute and cooperate, in his students. On the other hand, he is in a position just as advantageous for encouraging anti-social traits. If he regards other

school teams as enemies to be beaten, and fires up in his own players emotions which are, in degree, the same that characterize war hysteria, he is interfering with the establishment of the new and better order, and as an educator he is an imposter. If his own sense of values is askew, one can hardly expect him to be of much help in forming the thought habits of students over whom he could exert an influence for which they would be grateful all their lives.

What is needed more than anything else in the American mind is the questioning attitude, known among the Ph.Ds as intellectual curiosity. It is as imperative to educate for the development of a questioning attitude as it is for a social consciousness. The less sheep we have among our citizenry the better government we will have. Enlightened followership is no less the need of the hour than sound, intelligent, courageous leadership.

BAD PEOPLE ON THE GOOD EARTH

EDUCATION for a questioning attitude and enlightened followership should also include training of a more apparent, practical kind than that usually associated with the intellectual process, although it is definitely associated with it. We refer to training for a practical skepticism; or, if this phrase is alarming call it "awareness" or "high-minded doubt." In football, basketball, baseball, etc., the side on defense has it. It is an essential of good living in a society whose members compete against each other for the rewards of a sufficient earth. For, if we were to teach co-operation, helpfulness and other phases of social-mindedness without hammering in the need for a modern, practical skepticism, we would be raising a most gullible and naive youth who, as soon as they get out into the world, would be victimized by the very first gold-brick salesman to come along. We can never educate the villains out of the world, but we can educate more and more of our youth to defend themselves against anti-social elements, while at the same time we educate them to be positive social forces themselves. It is our opinion that the American educational system has fallen down in this respect, except in the field of athletics. In athletics

SCHOLASTIC COACH

FOR THE COACHING AND PHYSICAL EDUCATION DEPARTMENTS

there is always the defensive side whose members are prepared to watch for tricks, subterfuge and deception. Thus, in the athletic laboratory our students are learning one of life's greatest lessons. Competitive sport is no educational frill, for this reason if for no other. But the burden ought not to be borne by athletics alone, which, after all, have their limitations like any other subject in the curriculum.

THE BARBARIAN INVASION

IN games, the tricks, subterfuge and deception which players on defense are trained to look for, are the legal things that the rules of the game allow. Occasionally an illegal trick is attempted, which carries a penalty. But it is not always detected by the official, and the offender gains his point illegally, and goes unpunished. This, too, is good education for the offended, for it is like life. Although in Hollywood movies the guilty are made to suffer in the end (to satisfy the censors), life is not always like that. In life, as in games, you can often get away with it without being caught. But outside the play field has not our education taught that the guilty are always punished, and the innocent and law-abiding rewarded?

We will emerge from this fool's paradise or we will perish at the hands of the twentieth century barbarians—the racketeers. Our education cannot ignore them. The coach can be of much greater value along this line of education for reality if he knows what is going on in the world. The higher his degree of culture (and this must never be confused with his academic degrees) the more valuable he is to society, and the greater should be his reward from society. His contribution is slight indeed if he is known to his students as a coach "who can turn out a football team all right, but . . ." The "but" signifies many grave omissions, which high school students are not slow to detect. Every school has its quota of slovenly thinkers and one-track-mind athletes who could not detect anything without a signal being given for it. These, fortunately, are not representative of student potentialities. The material in sufficient numbers is there for making a more socially-just nation. Are we equal to the task of making the best of it?

*Sculpture in metal by the Frenchman, Pierre Toulgouat, who has done many athletic figures. The piece shown was entered in the Olympic athletic art competition at Los Angeles last summer and is pictured here through the courtesy of Miss Leila Mechlin, director of the Olympic art exhibition.



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LETTERS to the Editor

Editor, Scholastic Coach

Dear Sir:

Many athletic directors who are teaching the youth of the nation to play would like, in the interest of uniformity, to see out-of-bounds rules of our athletic games changed so that in all games a ball hitting the boundary line, or a player touching the boundary line, would be either out or in—the same ruling for all games.

At present, in football, the side line is out, the tennis boundary line is in, the basketball boundary line is out, the volley ball boundary line is in, etc. It is extremely confusing to those who play several games and is the cause of innumerable disputes among our young people.

If you will ask any two people, who are connected with athletics, to give you the out-of-bounds rule in a half a dozen different sports, the different opinions you will get will, I am sure, convince you of the value of such a change as I propose.

Very truly yours

W. L. CHILDS
Athletic Director

New Trier Township H.S.
Winnetka, Ill.

Editor, Scholastic Coach

Dear Sir:

Would you kindly give your idea of the proper settlement of the following proposition:

Two high school girls basketball teams are playing a deciding game for a championship trophy. There are about forty seconds left to play and the score is tied at 12-12. The referee has just called a personal foul on the opponent of the captain of team A. The referee placed the ball on the wrong foul line and was waiting for the shot to be made. The captain of team A, who had just been awarded the shot, realized that the referee had made a mistake so she walked over to the ball, picked it up and started toward her own foul line. She had just reached the line when the referee, rather confused or excited at his mistake, walked up to the player, took the ball out of her hands and permitted no foul shot. He then walked to the center of the floor and tossed the ball up at center. The coach of team A, at this point, was on his way to the scorers' desk to find out what the decision meant. At this moment the whistle blew for the end of the game. The referee would allow no discussion of the matter and immediately blew his whistle for the overtime period. When team A did not take the floor at once the referee forfeited the game to team B. Later the coach of team A went to the dressing room of the referee and convinced the referee that there was no rule which allowed a referee to disallow a free throw after he had awarded it. The referee then said he would return to the playing floor and explain to the spectators that he had no authority for taking the foul away and as the coach of team A had consented to play the overtime period if this explanation was made by the referee, team B was asked to return to the floor. This they refused to do, so the referee said that he must leave the game forfeited to team B.

What would your opinion be in such a situation? Could the referee refuse to allow the foul shot after once awarding it? If he thought the captain of team A was breaking a rule in picking the ball from the wrong foul line and taking it to her own, should he not have called a technical foul on her?

C.K.J.

Address withheld by request.

Principal

TRACK AND FIELD THE YEAR ROUND

By NORMAN BARKER*

THE ORGANIZATION OF PRACTISE AND COACHING IN A LARGE CALIFORNIA HIGH SCHOOL

TRACK practice at Long Beach Polytechnic High School† commences with the opening of school in September. Last fall, although 200 or more boys came out for football, basketball, and

insist that they run themselves out. As yet we have no evidence of any bad results.

After the first two weeks, instead of giving exercises in one group, we require each boy to take them by himself. This permits more time for individual coaching.

Our cross-country runs are always less than two miles. At the end of one month's training, with few exceptions, we run two half-miles Monday; three separate 220-yards on Tuesday and Thursday; a mile and a half on Wednesday; and two miles on Friday.

We suggest long walks on Saturday and Sunday. For our dual meets we make no change in our program; in fact, we try to keep the knowledge of the days of meets from the boys. But we do try to have our dual meets on the days on which we regularly have our longer runs.

For our All Coast League and Southern California runs

The balance of the group was composed of new men, some of whom were sophomores, and others who had been in school but had previously taken no part in track. We put these men into their various events and worked them just as we would in the track season.

In order to give the boys a chance to try themselves out and determine whether any of them had developed to a point where they would make the school team, early in December we had a track meet, scheduling one event per day over a period, excluding the quarter, half and mile.

After the Christmas recess our track class continued as in the fall. All our students are required to take physical education. The first week in January we start an inter-physical education class meet which lasts three weeks. We have selected the 100-yard dash, shot put, high jump, and broad jump, which are really the fundamental events of all track and field. About 1200 boys take part in this event. We have seven class periods during the day. The first week we select the best twenty performers in each event for each period. The second week we select the best five of the twenty, and the third week we decide the championship. Now, the records made in this meet among boys who, in the main, had no idea that they had any track ability, has been a revelation to me. Each year we have from eight to ten boys in this group who leap nineteen feet or better,** twenty who high jump over five feet, a great many who put the eight-pound shot over forty-five feet; and each year a very good sprinter, or quarter-miler, has been located in the finals of the inter-physical education class 100 yard dash. (Continued on page 20)

other sports, still we had 145 register for fall track. The last period of the school day was assigned to this sport and practice was permitted to continue after school.

The first two weeks were spent in calisthenics and light running. Both of these forms of exercise were given primarily to develop a physical condition which would permit the boy to take part with reasonable safety in any event, and also to acquaint him with a certain group of exercises which he can do by himself to keep in condition.

In the fall we emphasize distance running; first, because during that season we have cross-country meets which stimulate effort; and second, because the condition gained in the fall builds a physical background which will be of value during the spring track season.

In our cross-country work we do not regularly attempt to stimulate the boys to such a degree of effort that they will become exhausted: but rather ask them to get in good condition and then get as much pleasure as they can out of the five or six dual meets with other schools. In the annual Southern California run, however, in order to display that ability of rising to the occasion, which is a characteristic every good athlete should possess, we

(dates of which are known to all in advance), we do practically no work for a week prior to these two meets; in fact, only enough to hold the interest of the runners by means of short runs.

In the fall we emphasize cross-country. However, only about 30 of the 145 boys out for track last fall engaged in competitive distance running. Many of the others were last year's team members who wanted to perfect their form.

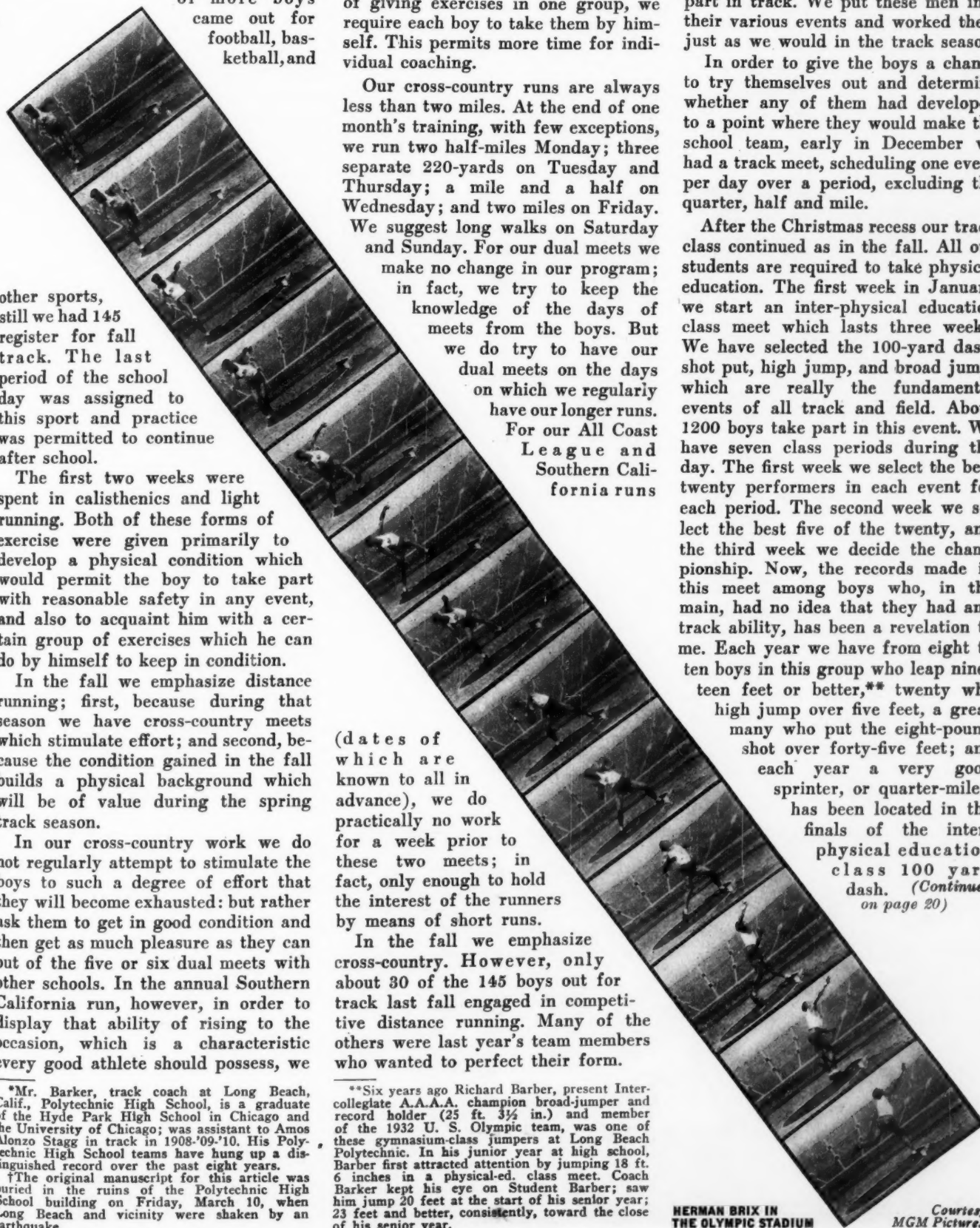
*Mr. Barker, track coach at Long Beach, Calif., Polytechnic High School, is a graduate of the Hyde Park High School in Chicago and the University of Chicago; was assistant to Amos Alonzo Stagg in track in 1908-'09-'10. His Polytechnic High School teams have hung up a distinguished record over the past eight years.

†The original manuscript for this article was buried in the ruins of the Polytechnic High School building on Friday, March 10, when Long Beach and vicinity were shaken by an earthquake.

**Six years ago Richard Barber, present Inter-collegiate A.A.A.A. champion broad-jumper and record holder (25 ft. 3½ in.) and member of the 1932 U. S. Olympic team, was one of these gymnasium-class jumpers at Long Beach Polytechnic. In his junior year at high school, Barber first attracted attention by jumping 18 ft. 6 inches in a physical-ed. class meet. Coach Barker kept his eye on Student Barber; saw him jump 20 feet at the start of his senior year; 23 feet and better, consistently, toward the close of his senior year.

HERMAN BRIX IN THE OLYMPIC STADIUM

Courtesy MGM Pictures



BASE-RUNNING AND SLIDING

By BENNETT LEVY

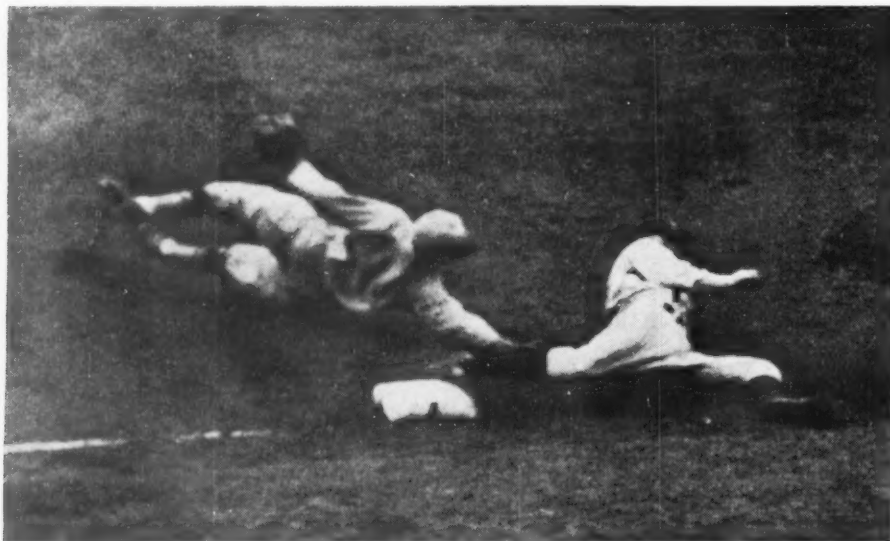
Mr. Levy's teams at Bushwick High School in Brooklyn, New York, have been among the best schoolboy teams in the East. A project undertaken by Mr. Levy last year on the fundamentals of baseball, demanded a thorough research into baseball and associated writings. This baseball bibliography is published on the opposite page, and Mr. Levy's conclusions herewith on baserunning and sliding are the result of a majority of opinion from these writers.

A MOST important fundamental of the offense is base-running. It is also perhaps one of the most difficult phases of baseball to teach, because good base-running is



a matter of alert thinking and keen anticipation as much as body balance and skill in footwork and sliding.

The high school coach's problem is not made any easier by the presence on his team of two or more players, usually, who run the bases almost totally oblivious to the strategic situation in which is involved the inning, the score, the ability of the man at bat, the presence of runners on other bases, etc. These reckless, happy-go-lucky base-runners oftentimes "get there" despite everything, but it is not good for the team that they be allowed to run berserk once they arrive at first base.

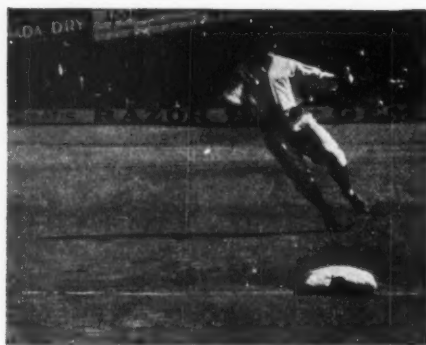


The material here is mainly on the technique of base-running and stealing. The innumerable tactical situations that can arise in relation to base-runners would require a special article of twice this length.

Clever work on the bases many times will make up for a lack of hitting power by allowing the weak hitting team to use their chances for straight hitting and not to waste some chances for the purpose of sacrificing. The techniques that make up this fundamental are: first, Circling the Bases; then, Plain Stealing and Sliding.

CIRCLING THE BASES

By circling the bases is meant that



action performed by the runner in advancing from one base to another in a continuous dash. The shorter the distance the runner makes for himself between bases by the proper circling the better chance he has to become safe, naturally. There are three principles to this fundamental:

(1) The runner, in order not to be forced to run too far out of the base-line, should start swerving out a little before he gets to the base so that he will be able to cut in sharply and follow the path which is the shortest distance between the bases.

(2) The base, in circling, should be touched on the inside corner.

(3) The left foot should touch the bag in circling.

STEALING

In this technique only the plain steal (when a runner advances from one base to another unaided by his team-mates or errors by the opposition) will be discussed; this steal is not necessarily from first base to second. The higher technique of the delayed steal is not included. In order to clarify the use of a specialized term it will be wise to define "lead." This term is interpreted to mean the distance from the base a runner attempts to take with safety just before the pitcher delivers the ball to the batter



or base. There are seven principles to this fundamental:

(1) Speed is an asset but not an essential.

(2) A good lead is a great help.

(3) The lead will vary with pitchers.

(4) The runner must be able to get back to his base quickly when a play is made on him while he is taking his lead; this demands that he be in balance ready to go in any direction.

(5) A quick start is one of the most important essentials in stealing.

(6) In running to the next base do not watch the ball, but the baseman.

(7) Sliding is a necessary adjunct to stealing.

SLIDING

Sliding is done for two reasons. One is to serve as a brake when the runner wants to hold up at the base, and the other is for evasion of the fielder. Many accidents arise from sliding because the runner is untrained in the skills. Also many accidents occur from the lack of knowledge of sliding on

ACTUAL-GAME SLIDE: CHAPMAN
RETURNING TO FIRST BASE, US-
ING A HOOK SLIDE TO HIS LEFT

the part of the runner who wants to stop at a base. He does not know how to slide into a base and is therefore afraid to and in halting suddenly he turns an ankle as a consequence.

In teaching high school boys it is best to use a soft dirt or sawdust pit. The players should be well padded about the hips (basketball pants are good) and should wear gymnasium shoes, as spikes sometimes catch in the ground. Some coaches teach sliding indoors. It is best not to let the players remain in the sliding position too long. By rising immediately they will learn the habit of getting on their feet quickly and ever be on the alert. The head slide is not contained in this technique. This is held so much in disrepute nowadays that it is only a rarity when it is done. Occasionally a major leaguer will popularize this kind of slide but he is only one in a hundred.

There are eleven principles to the fundamental of sliding:

(1) The runner must land on his hip or side.

(2) If the baseman is on the inside of the bag slide to the right, and to the left if the baseman is playing behind the base-line.

(3) The speed of the run must not be slackened before the slide.

(4) The body is thrown out of the base-line away from the base and at an angle to it.

(5) The underleg is bent out in front of the body to offer a support. The thigh is at an angle of about 45 degrees more or less to the trunk.

(6) The slider should lean well back during the slide.

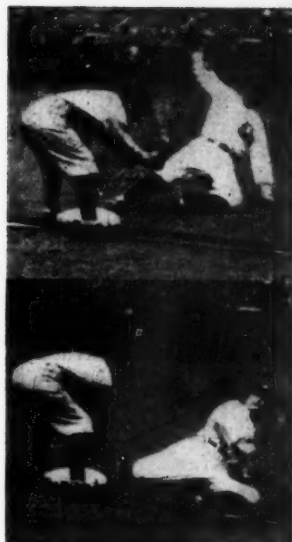
(7) Keep the arms off the ground.

(8) Hook the bag with the front part of the foot.

(9) The uppermost foot is used for this.

(10) Care must be taken not to overslide.

(11) Caution must be taken not to jump through the air.



THE GREAT
TY COBB

SPORTSCOPE OF CHAPMAN OF THE
NEW YORK YANKEES, CHAMPION BASE
STEALER OF THE MAJOR LEAGUES,
DEMONSTRATING THE HOOK SLIDE
ON HIS RIGHT SIDE. SEE PAGE
27 FOR SPORTSCOPE INFORMATION.



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FAST CINDER TRACKS

THE oldest employee of the University of Chicago is the man who is chiefly responsible for making the Stagg Field cinder track one of the fastest in the country. Jimmy Twohig, the University groundkeeper, celebrated his seventy-ninth birthday last month, and as he walked over the familiar ground pointing out various features of construction at Stagg Field, he recalled that just about thirty years ago he started digging for what today has become a model foot-racing track.

When Twohig first began probing to see what lay underneath the proposed track, he found it almost pure sand twenty feet down, which was as far as he went. But he was convinced that this sand stratum went down that far again to blue clay. His drainage problem for a racing track had been fairly well solved by the glacial drag,

but nevertheless he made and carried out elaborate plans for a surface drainage which would dispose of heavy rainfalls in quick order.

First, fourteen inches of sand were excavated from the whole track and then the concrete pole set. Then approximately four inches of brick, stones, and clinkers were thrown in as base.

For the next step six inches of rough-ready cinders—the rougher the better—were dumped on the four inches of rock and clinkers.

The remaining four inches were filled with screened cinders. Of course the track was carefully raked and then rolled, but not rolled so much that it would lose all of its elasticity.

COMPLETE DRAINAGE

Then came the question of additional drainage, even though the builders of the track were confident that the sand stratum would carry away water quickly enough.

Inside the pole thirteen catch basins were dug, 100 feet apart, and each exactly three feet inside the pole. Next, ten inches below the ground, a 2-inch pipe was made to extend from each catch basin to the track.

In order that a light beneficial rain or watering might not immediately be sucked from the track, steel plates were placed in the ground ten inches down, right at the spot where the pipe from the catch basin opens into the track. These steel plates fit snugly against the pole and do not protrude more than an inch above the ground. Fitting against the pole, these plates cannot interfere with the runner in the pole lane. These plates are kept in place most of the time, being removed only for heavy rains and thawings, as light rains and sprinklings seep through fast enough.

In building the Stagg track, yard by yard was completed and rolled, instead of the whole track being built at one time; Twohig cautions against rolling an old track too often. He said that once every two weeks is enough to keep it in condition and too much rolling will tend to eliminate the spring; even as too little rolling will do the same thing.

EVANSTON HIGH SCHOOL TRACK

THE Evanston Township High School track, on the northern border of Chicago, is recognized as one of the best cinder tracks in northern Illinois.

Originally the land on which the track is built was a swamp. Proper

drainage had reclaimed this land, when E. G. "Heinie" Schultz, one of the backs who blocked for Red Grange at the University of Illinois, came to superintend the construction of the new Evanston track some years back. Upon examination, Schultz found nothing but blue clay to build on.

Having had experience in building tracks at Aurora and Joliet (Illinois) before accepting the Evanston post, Schultz wanted to be certain that he would have a track in which the big cinders would not work their way to the top in a few years. Accordingly, he excavated twenty inches, and laid a tile pipe line running around the track with cross lines of tile connecting at intervals. After this pipe line of tile was completed, the process of filling in the track began.

At this time builders were wrecking an old stone residence in Evanston and Schultz contracted to have these old stones and bricks hauled to his track at a nominal cost.

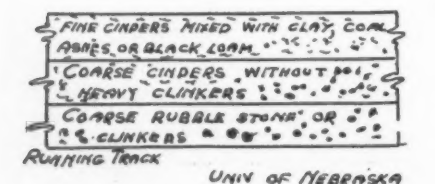
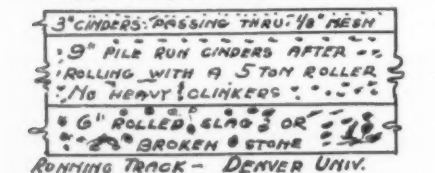
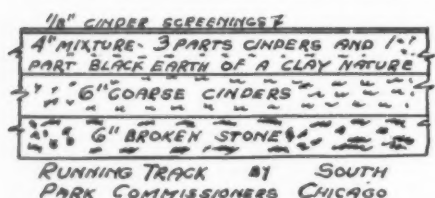
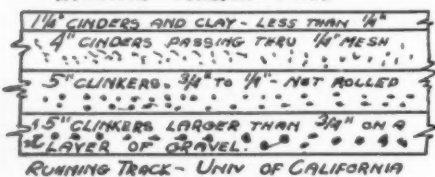
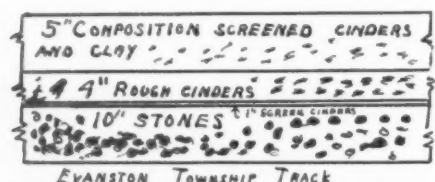
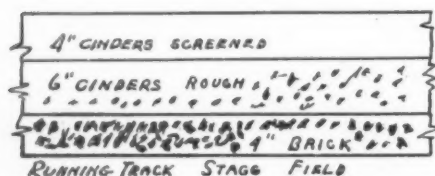
The foundation of the track is made up of ten inches of stones, rocks and such similar material secured from the old building. A thin layer—one inch—of screened cinders was padded on top of the ten-inch foundation, and on top of the fine cinders was dumped four inches of rough cinders and clinkers. The last five inches are made up of a composition of perfectly screened cinders and a binding of clay.

A rolling every two weeks is sufficient to keep the Evanston track in first class condition. Most of the work on the track is done in the early spring, after the thaw. The top surface must be kept at four inches by constantly adding to it each spring. If allowed to go unreplenished, this top layer will soon have the big cinders working up into it from the bottom.

THE SOLDIER FIELD TRACK

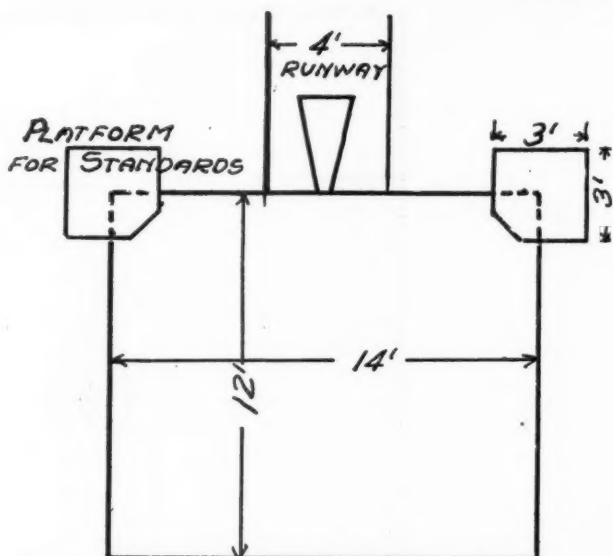
The track at Soldier Field, Chicago's municipal stadium on the lake front, in the heart of A Century of Progress Exposition, was also built on filled-in land. It has a bottom layer of six inches of broken stone. On top of this are six inches of coarse cinders; then comes a four-inch mixture of three parts cinders and one part black earth with some clay in it. The top surface is one-eighth of an inch of very fine cinder screenings, which packs down on top of the cinder-clay composition to make a track which many regard as being second to none when it is right. It is hard to keep it right, however, with so much non-track activity going on in the stadium.

THE STUFF FAST TRACKS ARE MADE OF

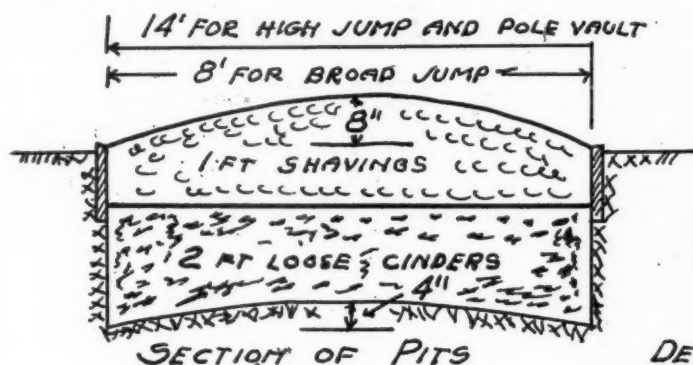


Plans and specifications for field accessories

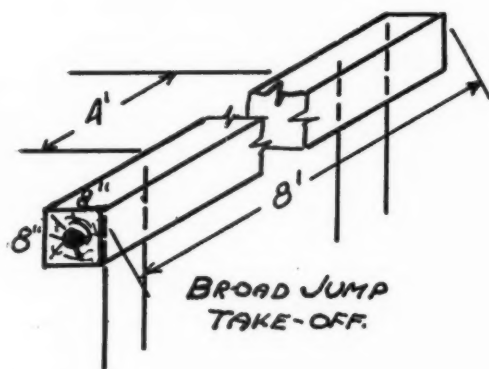
Courtesy, J. Lyman Bingham, assistant to President Avery Brundage of the A. A. U.



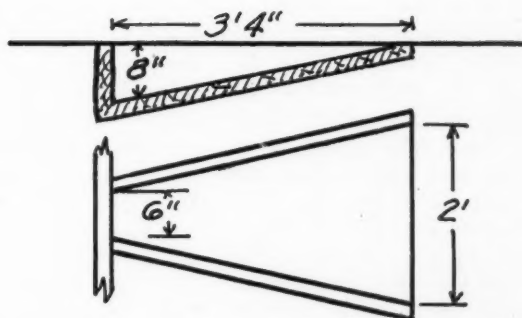
POLE VAULT PIT- HIGH JUMP PIT
SIMILAR EXCEPT RUNWAY AND BOX



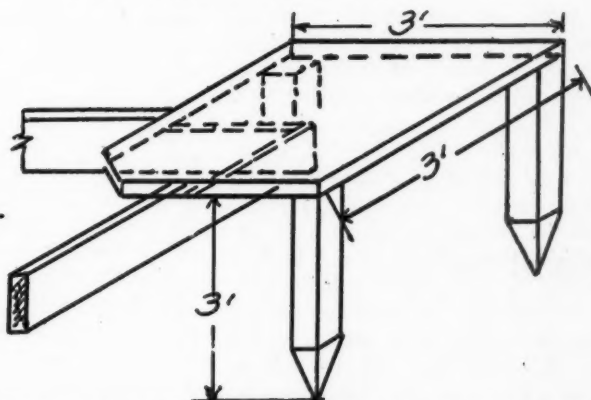
SECTION OF PITS



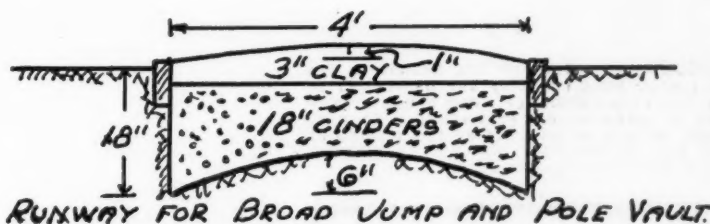
BROAD JUMP
TAKE-OFF.



PLAN AND SECTION OF POLE PLANTING
PIT FOR POLE VAULT.



DETAIL OF PLATFORM FOR POLE VAULT AND
HIGH JUMP STANDARDS



RUNWAY FOR BROAD JUMP AND POLE VAULT.

PEOPLE

Lawson Robertson, track coach of the University of Pennsylvania and U. S. Olympic teams, stopped his car in a Philadelphia suburb to help a little man who lay groaning in the road where he had been thrown from the running-board of a car hit by another. Bending over, Robertson saw that the man was William Arthur Carr, the greatest trackman Robertson had ever trained, who last year broke the world's record for the 400-meter run in the Olympics when he ran Benjamin Bangs Eastman into the ground. Coach Robertson lifted Carr in his arms, carried him to his

own car, drove him to a hospital. Doctors found Carr's pelvis and both ankles fractured, his track career finished.—From *Time*, the Weekly Newsmagazine, Mar. 27.

Wesley J. Fesler, former all-around athlete at Ohio State, has been named head basketball coach at Harvard, to succeed Ed Wachter, who has just completed his seventeenth season as Harvard basketball coach. Harvard's new policy places all members of the coaching staff on a year-round basis.

1933 PRO FOOTBALL RULES

Changes in the way in which professional football will be played next fall, all tending to provide more leeway for the offense, were adopted by the National Professional Football League. The league voted to:

1. Lift restrictions on the forward pass, making it possible for a pass to be thrown from any point behind the line of scrimmage instead of five yards back.
2. Return the goal posts from the rear line of the end zone to the goal line.
3. Accept the ten-yards-in rule.
4. Refuse to adopt the new clipping penalty, which reduces the penalty for the foul from twenty-five to fifteen yards.

CHARLEY PADDOCK WRITES IT OUT

CHARLES W. PADDOCK had the grand manner, and it is this fact as much as it is the record speed at which he raced over cinder tracks, which has preserved for him the title "world's fastest human" even though today there are a half dozen sprinters breaking and equalling the best time Paddock ever made in the 100—(9.5s., yards; 10.4s., meters).

Showmanship was as much in Charley's line as speed. The cinder track was a stage to him, and he had the imagination and the temperament to make the situation dramatic to others besides himself. It is sometimes said of him that he had too much imagination and too many brains to be just a runner. Like Bill Tilden, he was always getting himself into difficulties with the authorities over something he would write for the papers, or would say or do as the result of a sudden inspiration or mood. Despite his frequent skirmishes with the authorities, which led many to suppose that he was running for what material things he could get out of it, Paddock was in spirit the purest of amateurs. He ran because he loved to, because it afforded him the spotlight; and he had something to put under that light. Such an ordinary preliminary detail as digging starting holes with a trowel he turned into a dramatic prelude to the race. The costume he wore reflected in texture and design the winged personality of an athlete who had too much to him to keep it confined to his legs.

STRIDE . . . EATING UP THE GROUND IN THE HALF-MILE: DAVE FOORE OF THE UNIVERSITY OF SOUTHERN CALIFORNIA, OF WHOM PADDOCK SAYS: "HE IS ALLOWING HIS FORWARD LEG TO DROP BACK, SO THAT HE WILL STRIKE THE GROUND ON THE BALL OF HIS FOOT, WHILE STILL PRESERVING A GOOD LEAN."



Now, a year after Charley Paddock has laid aside his spiked shoes for good,* we have his book telling how it all should be done, from running the sprints to throwing the discus. *Track and Field*, by Charles W. Paddock (A. S. Barnes & Co.), is not the story of how Charley Paddock grew from a Pasadena High School runner into the "world's fastest human," but is the sum total of this champion's observations on form and technique in all the events that go to make up a track and field meet.

These events Paddock has taken and grouped in four parts called "Speed," "Stamina," "Strength," and "Spring." From the chapters on "Speed" and from the introductory chapter in which Paddock, with typical frankness, reveals his attitude toward the metric system on American soil, the following is taken, by permission.—J.L.

THE METRIC SYSTEM

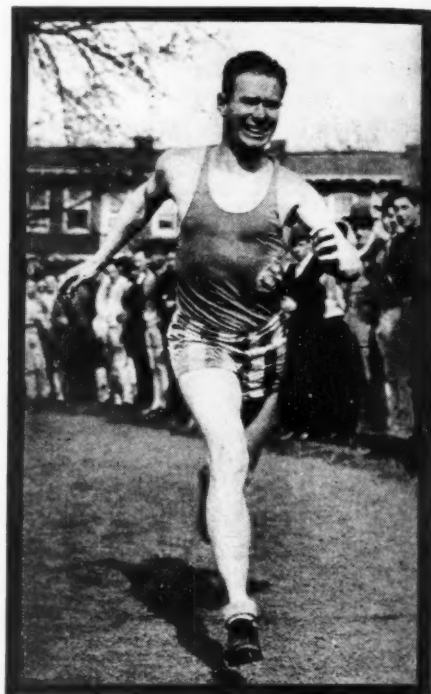
"The metric system recently adopted by the A.A.U. will neither be popular nor of long duration, in the opinion of the writer. Schoolboy athletes will probably never be forced to come under the ruling . . . Under the metric system, it will be impossible for the average American sportsman (unless the whole country goes 'metric') to know how high a man is jumping . . . until he consults his 'measurement booklet.' The following table shows how the standard running events appear translated into metric terms:

Former Standard Distance	Metric Distance	Linear Equivalent
100 yds.	100 m.	109 yds. 1 ft. 1 in.
220 yds.	200 m.	218 yds. 2 ft. 2 in.
300 yds.	300 m.	328 yds. 0 ft. 3¼ in.
440 yds.	400 m.	437 yds. 1 ft. 4¾ in.
880 yds.	800 m.	874 yds. 2 ft. 8¾ in.
1 Mile	1,500 m.	1,640 yds. 1 ft. 4¾ in.
2 Miles	3,000 m.	1 mi. 1,520 yds. 2 ft. 8¾ in.
5 Miles	10,000 m.	6 mi. 376 yds. 1 ft. 2¼ in.
Marathon	42 kilom., 195 m.	26 miles, 385 yards

SPRINTING

"To be a successful sprinter a boy must master the four parts of a race, namely: the start, the pick-up, the stride and the finish . . . He must discover how to blend them together until his sprint action has become so smooth that it is impossible to tell where the start finishes and the pick-up begins. He must also acquire a knowledge of the proper method of breathing. Even in short distance work this is imperative. And he must know how to handle his arms."

*Paddock was a member of the 1920, 1924 and 1928 U. S. Olympic teams. Last spring he attempted to stage a comeback and win a place on the 1932 team, but he was no longer equal to it. He will be 33 next August 11th.



SWING . . . THE AUTHOR HIMSELF, SWINGING ALONG WITH CHARACTERISTIC EASE OF MOVEMENT, AND IN RAIMENT BECOMING TO THE "WORLD'S FASTEST HUMAN." OF THIS PHOTOGRAPH, PADDOCK WRITES IN HIS BOOK: "THERE IS NO REAR 'KICK-UP' WITH THE BACK LEG, AND THE FORWARD FOOT IS STRETCHING OUT FOR THOSE FEW ADDITIONAL INCHES ON EACH STRIDE WHICH SO OFTEN SPELL THE DIFFERENCE BETWEEN VICTORY AND DEFEAT IN A CLOSE RACE . . . THE SHOULDERS ARE NOT FACING FORWARD SQUARELY ENOUGH."

Paddock states that Loren Murchison, national dash champion in 1918-20-23, used the starting style that embodies all the best features of the crouch start, and was the style Paddock himself used.

"Murchison dug his front hole, in which he was to place his left foot, nine inches behind the starting line. This distance allowed his body to be relaxed when he was called to the set position. He dug his back hole far enough to the rear so that the knee of his right leg came opposite the instep of his left foot when he took his 'mark.' This also contributed to relaxation when 'set.' He always got into his front hole first. By doing so, he kept the banks of his holes from giving way and allowed his back foot to be firmly pushed against the bank of the rear hole. After his feet were firmly set he placed his hands just in back of the starting line, his fingers and thumb forming a tripod, capable of holding his weight when he was called to the 'set' position.

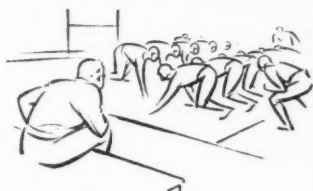
"The weight of his body was slightly forward, so that when the second command 'get set' was given, all that he had to do was to lift his left knee three or four inches from the ground

(Continued on page 24)

As you

WANT IT

More than 500 coaches and trainers help **BIKE WEB** write the specifications of the ideal athletic supporter

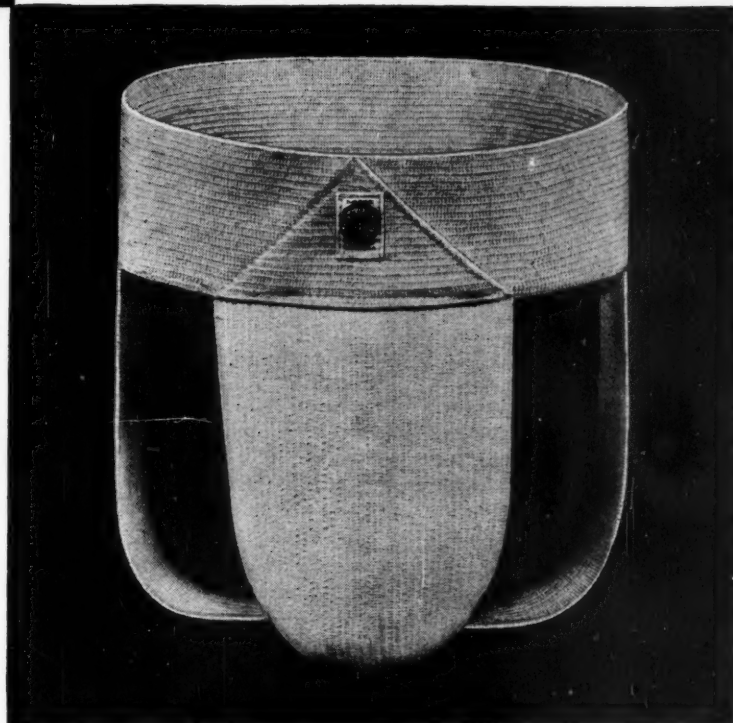


SAYS "Pop" Warner

In Bike Web's 1932 contest, GLENN S. WARNER, now Football Coach, Temple University, won a prize with the following entry:

Excerpts—"It should be made of elastic material, so that it will fit snugly and adjust itself to the body, giving just the right amount of support without uncomfortable pressure. . . . No rough surfaces to chafe the skin. There should be no discomfort to the wearer but only the feeling of pleasant support. It should be durable to avoid the expense of frequent replacement; washable to allow frequent cleansing without losing size, shape or elasticity. . . . It should be light in weight and porous, so as to be cool and afford ventilation. . . . It should be moderately priced so that the humblest athlete need not be without one."

Compare Mr. Warner's specifications to **BIKE**, the coaches' favorite supporter for more than 60 years—the only supporter possessing all these features.



Bike is the *one-piece, all-elastic* supporter, made of super-soft webbing throughout. No rough edges or selvage to chafe the skin. It s-t-r-e-t-c-h-e-s—not too much, not too little—to *feel right* when in use. It stands up under daily wear and frequent washing, meeting today's demand for economy in use. Made clean and sanitary as a surgical dressing. And Bike's price is within reach of all.

Remember

The contest is over, but Bike Web always welcomes your practical suggestions which may help us produce a more perfect supporter.

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BIKE

For more than 60 years the coaches' favorite athletic supporter—Sold by sporting goods dealers everywhere

ORIENTATION OF ATHLETIC FIELDS

By GAVIN HADDEN, C. E.

Mr. Hadden is a civil engineer with offices at 607 Fifth avenue, New York City. He has had extensive experience in the design of facilities for recreation and athletics. Colleges, high schools, park commissions and municipalities in various parts of the country have been among his clients.

ARE you ready, Blues? Are you ready, Whites?—PLAY!" Some such words as these may be heard almost any day on school athletic fields all over the country. Compare their cheerful sound with the pseudo-military commands of the old calisthenics days: "Class, Attention! Hands on hips—PLACE!" or words of a similar nature. Can anyone doubt that the changes in physical education which these phrases indicate have been for the better? The word "play" symbolizes best of all the spirit of these changes: for the monotonous drudgery of calisthenics and "class exercises" there has been substituted real recreation and play. Every educator—especially every director and coach—knows the benefits to the boys and girls which this has wrought. The modern system of physical education has been subjected to abuse, of course (what human endeavor has not?), but its soundness, when properly administered, remains unimpaired.

The changes from mere exercise to competitive games have inevitably brought new problems, and foremost of these is the problem of providing the necessary athletic fields and play-grounds. The "stationary run" of the old days required less than 50 square feet of area for each boy or girl; more than 1400 could take their exercise simultaneously on a field the size of one gridiron, and this same gridiron accommodates only 22 playing a game of football. So the schools have had to find more and larger fields; and just any old field will not do for the modern games. For obtaining full enjoyment and full benefit to the players, as well as for the prevention of accident and injury, certain standards must be maintained and certain conditions affecting the play must be met: grades, surface texture, moisture, light, wind, etc.

Not the least important of these conditions is light, and in designing athletic installations one of the first considerations in every case must be the orientation of the various fields of play with respect to the sun's rays. Orientation is one of the first conditions to be considered because it has an important bearing on the location of the field; it may also have a bearing

on the location of spectators at the various games, if they are to be provided for; but in most instances the orientation of the play-fields as a whole must be dependent primarily upon the requirements of the players—and rightly so.

TENNIS*

Of all the more popular outdoor land games, tennis is probably more greatly influenced by proper lighting conditions than any other. The great average speed of the ball and its frequent and rapid change of direction render its exact visual location most difficult and at the same

ing and afternoon play are anticipated, as in schools, certain courts are oriented for morning conditions and certain others for afternoon conditions. In the usual case, two different orientations will take care of all probable conditions reasonably well, but for an accurate determination of the most advantageous location, the designer should know not only the latitude and longitude of the site but also the limits of the average annual and daily playing periods.

The illustration on this page shows a typical orientation diagram for a certain tennis club, whose average annual playing period extended from June 1 to September 15 and whose average daily playing periods were estimated as from 10 a. m. to 1 p. m. and from 2 p. m. to 6 p. m., eastern daylight saving time.

The diagram shows that the mean azimuth of the sun was determined for each of the two daily playing periods, by astronomical calculations of the direction of the sun's rays for each hour on each of the critical dates, including the date of the summer solstice, which occurs during the annual playing period. These calculations involve the latitude, the longitude, the sun's declination, and the equation of time, and although there is through a period of years a slight annual variation in the latter two factors, this variation runs in cycles and may be regarded as entirely negligible when compared with the probable error in the estimated average limits of the playing periods.

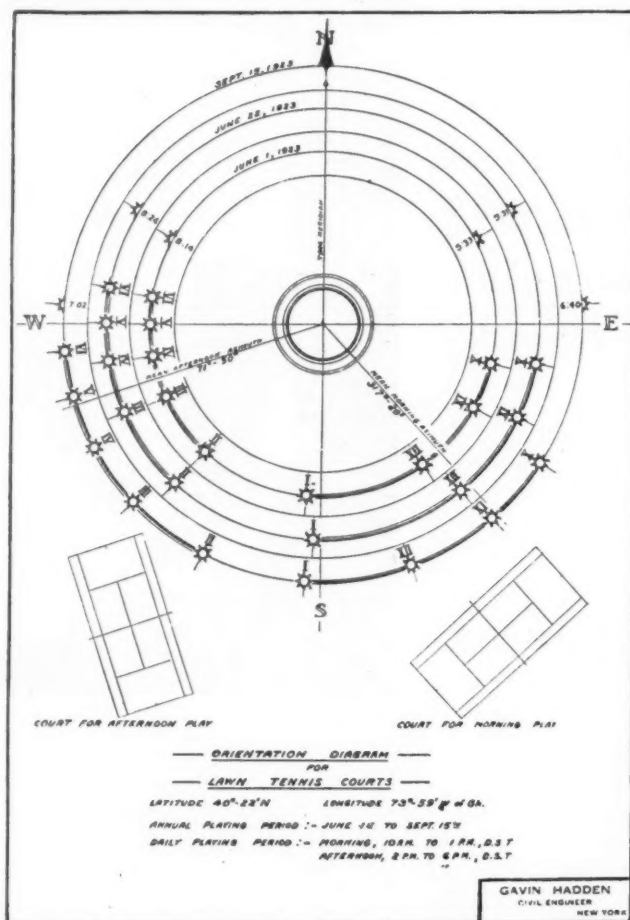
The azimuths thus determined indicate the ideal directions of the minor axes of the tennis courts when oriented for either of the two daily periods, as the light conditions are of course best for play when the sun's rays are parallel to the net. With the orientation shown, the sun's rays would at no time

during the playing hours be more than about 45 degrees away from the ideal. It may also be noted that a court ideally oriented for the average morning play has almost the worst possible orientation for the average afternoon play, and vice versa, and that a court oriented for the average of both would be inferior for either one.

FOOTBALL

The game of football, like lawn tennis, is a so-called "two-direction" game; that is, a game in which the general direction of play follows approximately parallel lines, the participants on one side facing generally in one direction and the participants on the other facing generally in

(Continued on page 22)



time most important.

No accurate rule can be laid down for the correct orientation of lawn tennis courts in general, as the proper direction of the court depends not only upon its latitude and longitude but also upon the annual and the daily playing periods, which vary widely under varying conditions of use. While many tennis installations comprising courts in considerable numbers have been laid out with all the courts oriented alike, and following only very general ideas as to the average direction of the sun's rays, some institutions have used great care to secure the best possible playing conditions at all times. Sometimes, where both morn-

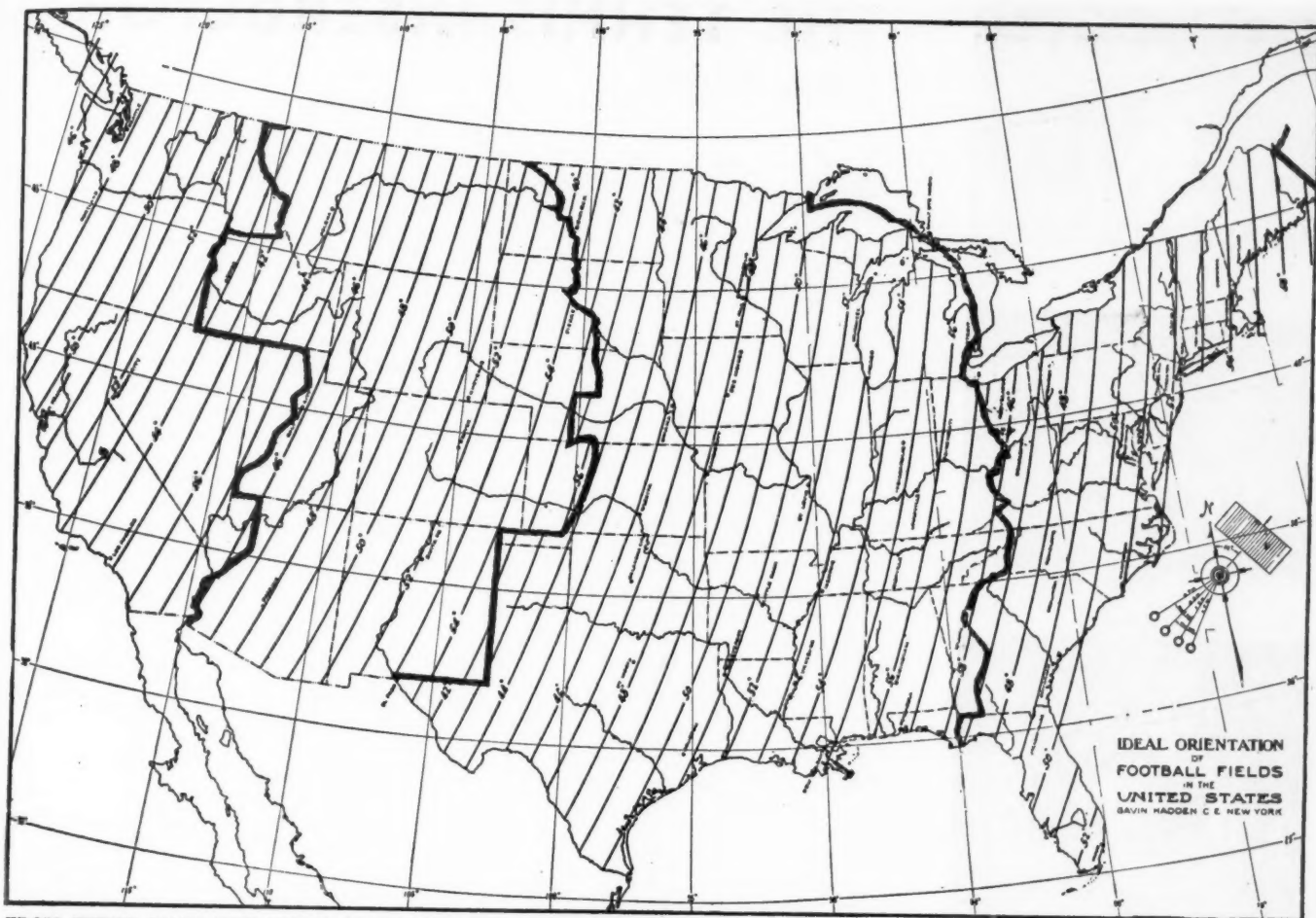
*Courtesy, The American City.

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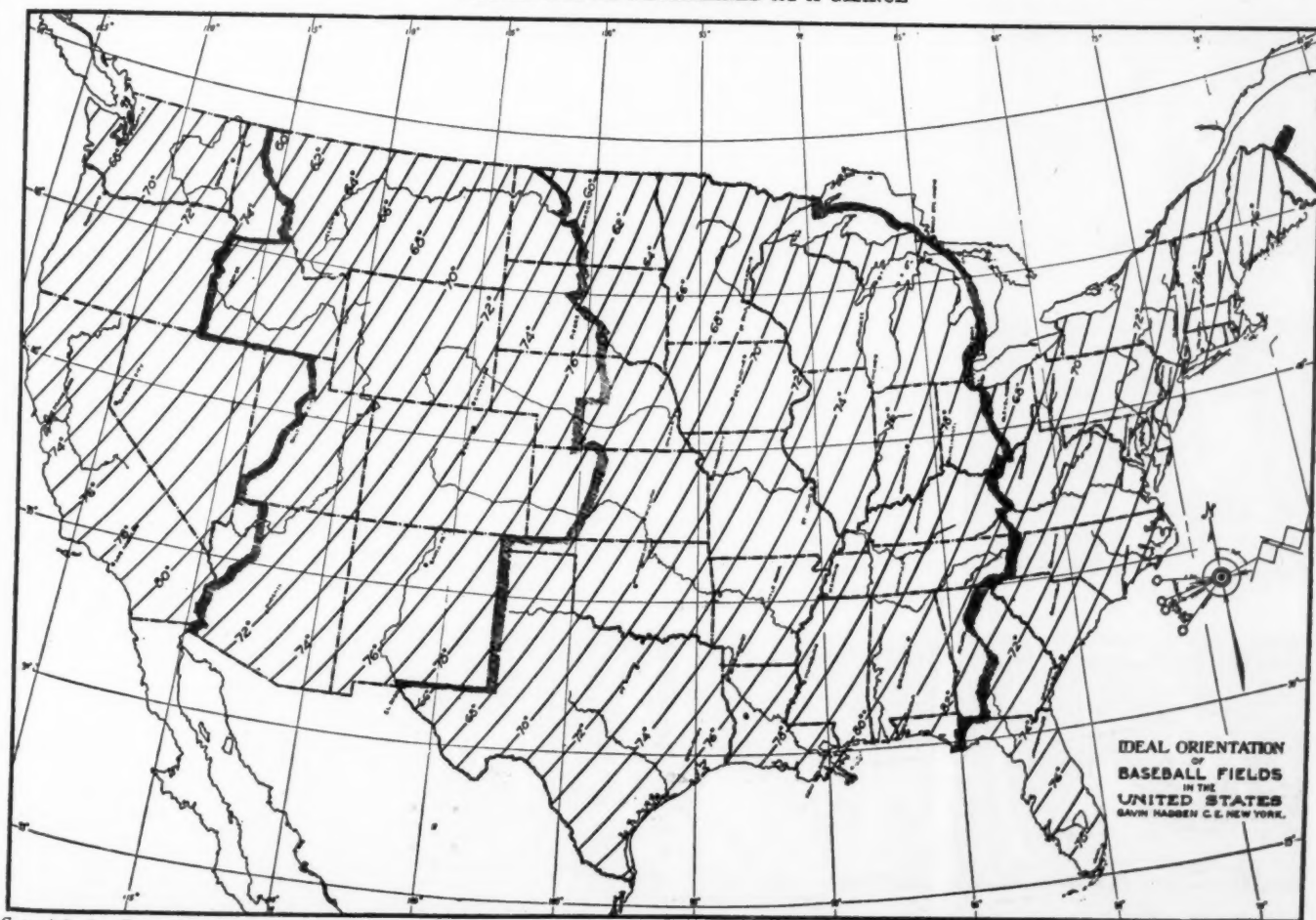
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FROM THESE MAPS THE IDEAL ORIENTATION OF FOOTBALL FIELDS AND BASEBALL DIAMONDS IN ANY PART OF THE UNITED STATES CAN BE DETERMINED AT A GLANCE



THE TENNIS INSTRUCTOR

By PAUL BENNETT

IN the first two lessons the forehand and backhand drives, with corresponding grips and footwork, were taken up in detail with your hypothetical pupil, John, who has now come for his third lesson, which is on the service. The instruction is necessarily elemental, for it is assumed that John is a tennis beginner; or at least one who, though he may have been swinging a racquet for a year or more, had been doing it most ineffectively.

Now, John, the first point on serving is to know where to stand. The rules require you to stand back of the baseline on either the right or left side of your court (the side depending on the score, of course). If you stand in the extreme corner, behind the intersection of the baseline with the sideline, you will leave a considerable area of your court unnecessarily exposed to a quick return of service by your opponent. The best place to stand, in singles, is near the center of the baseline, and this places you at the start in a good position for handling the return of your service regardless of whether it comes to your forehand or backhand. In doubles, stand mid-way between the center line and the sideline of the doubles court.

Next, when you walk up to serve, be sure that your left foot is about two inches back of the baseline. There is a rule in tennis that says that when the racket and the ball meet, at least one foot must be on the ground and both feet must be behind the line. In other words, if your left foot touches the line or if your right foot swings over the line before the racket and the ball meet or if you jump off the ground with both feet, you will violate the footfault rule. The penalty for a footfault is just the same as if you did not hit the ball into the service court on your opponent's side. In other words, regardless of whether the ball goes in the service court or not, it is counted out.

The next thing is to know how to stand to serve. Take a position with your left foot at about right angles to the way in which you are going to serve. Have your feet far enough apart that you feel fairly well set. Be sure that you are relaxed.

Hold your racquet halfway between the forehand and backhand grip.

The correct theory of serving is to start with the racquet handle about parallel to the ground about as high as your hips and in front of you. Your weight on

both feet and your left hand with the balls touching against the gut of the racquet. Your right arm comes down along your side, your left follows along and your weight comes back on your right foot. As your right arm starts up at the back, your left arm which has come part way back with your right, goes up to toss the ball over your left shoulder and slightly in front of you (towards the net). Your right elbow goes to a point slightly higher than your right shoulder, your right elbow bends and your wrist drops, so that the face of the racquet is hanging down at the back behind your head. Then the wrist starts up, the forearm comes up, the arm comes up and the body works into the swing so that when the racquet and the ball meet, every ounce of energy from the bottom of your feet to the top of the racquet is working into the swing. In other words, you have one big loop and one little loop in the swing of your racquet. The difficulty in learning to serve is to make your left arm and your right arm coordinate. You can do this by counting 1, 2, 3. Start your racquet down and back on 1, toss on 2, and hit on 3. I do not mean that your right arm should be stopped on 2 but that both arms and body should be working on all three counts.

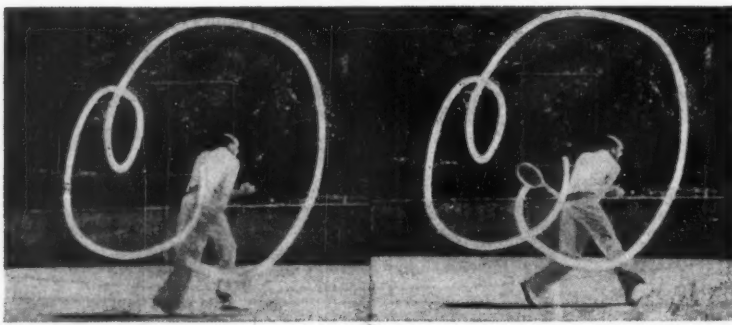
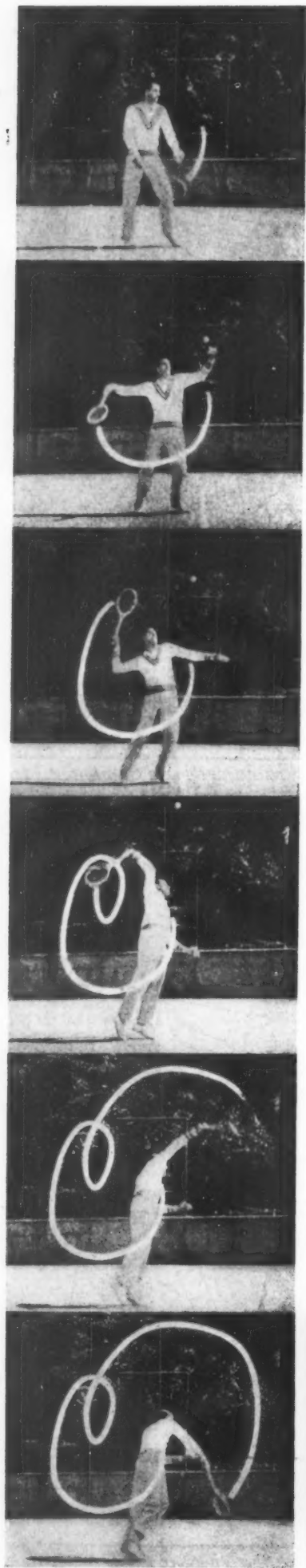
Now you try the swing. That's great. Keep trying it so that you can do it without thinking about it. Fine. Now take these balls and see if you can hit them. Be careful, you did not toss the ball at the right place. Try it again. There you are, you tossed the ball at the right place and the ball went into the service court on the other side of the net. How high should you toss the ball? Just high enough so that the ball has just started down as you meet it with the racquet.

There are various styles of services, John. But my advice to you is to develop the one we have been practicing before attempting any of the others, such as the American twist, reverse twist and the more freakish ones. The straight overhead with its natural slice (you can regulate the slice as you become more proficient) is the one to base your attack on. As you improve, you will see that the service is more and more a weapon of attack—the first weapon of attack—rather than merely a means of putting the ball in play.

The accompanying moving pictures of Bill Tilden show the champion demonstrating this sound service. Notice where the racquet finishes—to the left of his body. When he uses the American twist, the racquet finishes to the right.

**TILDEN'S STRAIGHT
OVERHEAD SERVICE**

Courtesy U.S.L.T.A.



Nat'l Federation

(Continued from page 3)

signed to standardize the athletic program and direct it into channels contributory to the general educational objectives of the schools.

"Mr. Marshall possessed in an unusual degree a dignified respect for the personalities of his associates, high ideals of fairness and a gracious sense of humor which combined to make him an ideal presiding officer and enabled him to cooperate with other men without irritations and recriminations, while at the same time his clearness of vision held him to an unwavering course toward the ultimate objectives of his efforts as an educator.

"Mr. Marshall's uniformly fair and courteous treatment of everybody with whom he came in contact, his unvarying good humor and his genial and kindly disposition won the respect of everyone he met and the admiration and affection of all who were intimately associated with him in any capacity.

"The National Federation is deeply indebted to him for his effective leadership during its formative period and hereby acknowledges its profound sense of loss on his departure from our activities. We pay our tribute of affection and regard to a sincere and helpful friend, a courageous and efficient leader, a courteous and kindly gentlemen."

New Basketball Rules Body

There was a meeting of the Executive Committee immediately following the adjournment of the National Council, and at this meeting Mr. H. V. Porter of Chicago and Mr. Floyd Rowe of Cleveland, were named as representatives to the Joint Basketball Rules Committee. Since that time, however, the Joint Committee has been dissolved, and a new committee consisting only of representatives of the National Federation and the N.C.A.A. has been formed to "preserve the community of interest between the schools and colleges and so that the administration and type of game may be universal in all educational institutions." The former Joint Committee, unwieldy in its numbers, consisted of representatives of the N.C.A.A., the Y.M.C.A., the A.A.U., the Canadian Amateur Basketball Association and the Chartered Board of Officials. The new committee will consist of eight N.C.A.A. representatives (one from each N.C.A.A. district) and four Federation representatives. Besides Mr. Porter and Mr. Rowe, the Federation has named Mr. W. I. Black of Nebraska and Mr. H. A. Swaffield of Connecticut to the committee.

C. W. WHITTEN

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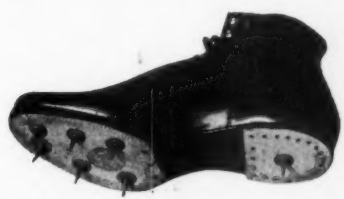
KX—Blue back Kangaroo cross country with 3/4" spikes and cushion heel.
JX—Same construction as KX but made of yellow back Kangaroo.



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At Detroit.

ILLINOIS (UNIV.)—June 19-July 29.
At Urbana, Ill.

INDIANA UNIVERSITY—June 14-July 11.
At Bloomington, Ind.

IOWA (UNIV.)—June 12-July 20; July 21-Aug. 24.
At Iowa City.

LAFAYETTE COLLEGE—June 26-July 1.
At Easton, Pa.
See Lafayette advertisement on page 20.

MICHIGAN (UNIV.)—June 21-Aug. 18.
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Heartly Anderson on football, Olsen and Taylor on basketball, Dave Woodward, Alex J. Nemzek and others. Write Mr. Nemzek. Advertisement will appear in May Scholastic Coach.

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NORTHWESTERN UNIVERSITY—Aug. 14-Aug. 26.
At Evanston, Ill.
See Northwestern advertisement on page 20.

OHIO UNIVERSITY—June 12-July 8.
At Athens, Ohio.
See Ohio Univ. advertisement on opposite page.

PENNSYLVANIA STATE COLLEGE—July 3-Aug. 11.
At State College, Pa.
See Penn State advertisement on opposite page.

PITTSBURGH (UNIV.)—Football, July 3-July 14; Basketball, July 17-July 28; Track, July 31-Aug. 11.
See Pittsburgh advertisement on opposite page.

SOUTHERN CALIFORNIA (UNIV.)—First term, June 19-July 28.
At Los Angeles.

SPRINGFIELD COLLEGE—July 3-Aug. 5.
At Springfield, Mass.
See Springfield advertisement on this page.

TEXAS TECH—July 31-Aug. 12.
At Lubbock, Tex.
See Texas Tech advertisement on opposite page.

URSINUS COLLEGE—Aug. 21-Aug. 30.
At Collegeville, Pa.
See Ursinus advertisement on this page.

WASHINGTON STATE COLLEGE—June 12-Aug. 9.
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Scholastic Tour Glacier Park

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Address the Director
SUMMER SESSIONS
University of Pittsburgh

BIOGRAPHIES

DR. H. C. Carlson, the University of Pittsburgh basketball coach, won nation-wide fame during the season of 1927-28 when his team went through a twenty-five game schedule without a defeat, playing the leaders of the mid-West and the East. Dr. Carlson, as an undergraduate at the University of Pittsburgh, played football and basketball (he captained the 1917 Pitt team, coached by Pop Warner). He received his B.S. degree in 1918 and his M.D. in 1920, both from Pittsburgh.

MR. ANDREW KERR, who will give the courses in football at the Springfield, Lafayette and Texas Tech summer coaching schools, was called to Colgate University in 1929 as head football coach. In the three-year period before that he coached both football and basketball at Washington and Jefferson College at "Little" Washington, near Pittsburgh. And before that he was first assistant to Pop Warner at Stanford. In fact, he was in effect head coach at Stanford for one year, paving the way for the arrival of Mr. Warner in 1923, who, when called to Stanford, still had a year to serve at the University of Pittsburgh. It was at Pitt that Kerr was first connected with Warner. In those days (1914-1922) Kerr held the unusual position of coach of various sports at the University of Pittsburgh while he taught mathematics at Schenley High School nearby.

DR. JOHN BAIN SUTHERLAND, head coach of football at the University of Pittsburgh and member of the faculty of the University's College of Dentistry, was born in Scotland in 1889. He came to the United States at the age of 16; entered Pitt in 1914, and became at once a regular guard on one of the great Warner teams. More than six feet tall, and weighing 200 pounds in trim, he presented a formidable appearance in either track or football uniform. After the war, he became head football coach at Lafayette College where he stayed for five years, being called in 1924 to succeed Pop Warner as Pitt coach. Dr. Sutherland's football teams have been among the best in the country.

COACH DON PEDEN has given Ohio University an enviable record in football since assuming charge of that sport in 1924. The Buckeye Conference championships in 1929, 1930, and 1931 were the first to come to Ohio University. No other member of the conference has ever captured three consecutive titles.

Mr. Peden is a graduate of the University of Illinois and a pupil of Bob Zupke.

HIGHLY recognized among the country's basketball coaches is Mr. Brandon T. Grover, who has been at Ohio University since 1920. Mr. Grover has played a prominent part in the activities of the American basketball coaches' association beside producing championship teams for Ohio. In his first season, his team won the Ohio conference title.

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Track

(Continued from page 7)

In order to keep these boys who have been eliminated from competition interested to the end of the school year, we stage on each successive Friday dual inter-class meets, followed by a final intra-mural championship. I might add that during this period we pay particular attention to the field events and hurdles and encourage the boys to practice these events during the summer vacation.

It will be apparent to anyone interested in track that with such a large squad coaching is a problem, and individual attention to every boy is impossible. We have a definite program, however, and I supervise it as far as possible. Each boy is asked daily to take a rather vigorous set of calisthenics and do his aggregate distance of running of one and one-half miles. The program on Monday is as follows: Every man on the squad takes one easy start; 120 yards at half speed; 120 yards at three-quarters speed; one fast start for fifteen yards; one run of sixty yards in competition with others. The sprinters then run 330 yards in the lower forties. The quarter-milers run 660 yards between one minute and thirty seconds and one minute and forty seconds. The half-milers run three-quarters of a mile in about three minutes and forty-five seconds. The milers run a mile and one-half. The hurdlers run two flights of highs over string stretched between the hurdles. The broad-jumpers go through their take-offs six times, paying particular attention to developing their maximum speed just before hitting the take-off board. The pole vaulters take six jumps each at low heights exaggerating their form. When we had the discus throw we practiced on it Monday and Wednesday; but now we have the football throw instead.

On Thursdays, every man on the squad runs three 220 yards at three quarters speed with a good deal of rest in between. The shot putters take about eight puts, and the high jumpers about six jumps. In both these events the contestants stress the various points of form that they attempt to work out. The low hurdlers go through two full flights with much rest in between. The broad-jumpers practice getting height and proper landing.

Wednesday's work is a repetition of Monday's, except that we emphasize performance and speed. The pole-vaulters attempt fairly good height. The high-hurdlers run seventy yards fast over woods; the quarter-milers, 330 yards; the half-milers, 660 yards; the milers, three-quarters of a mile, all at the pace they expect to use in the meet. Our meets being on Saturday, our work on Thursday and Friday is very light, usually consisting of practicing passing the baton, correcting form, or perfecting judgment of pace if necessary.

We usually have our squad out for two and one-half hours each afternoon: so it requires rather careful organization to get around. Just as soon as the boys get out

(Concluded on page 32)

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Complete

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Lafayette College, Easton, Pa.

GUIDING BOY-GIRL CONDUCT

By NEWELL W. EDSON

This is the third of the series of four articles written for Scholastic Coach by Mr. Edson of the American Social Hygiene Association. The counsel and criticism of Dr. Thomas D. Wood of Teachers College, Columbia University, in the preparation of this material, is gratefully acknowledged. Mr. Edson's final article will appear in the May issue.

HERE are several types of boy-girl experiences common to high school age, in guiding which I am convinced the school coach can be of much help.

The largest group of these experiences cluster about comradeships. Here boy and girl, held together for a time by a common interest or activity, begin to learn how the other sex feels and thinks and acts. Here are worked out the elements of social adjustments of the sexes—cooperative effort, sharing, give and take, respect for personality, unwillingness to exploit, stimulation to be one's best. Much of marriage is everyday comradeship, often successful or unsuccessful because of experiences in youth. And boy-girl comradeships hold endless possibilities for high or low satisfaction and ideals.

Just because the procession of comradeships passing before the school coach is so extended and so varied, it affords him many opportunities for guidance. During confidential conversation, kindly challenges like "Bill, what interests you so much in Mary, her good sportsmanship on a hike or the hope that she is an easy mark?" or "Be honest, Evelyn, do you like him for his tennis, or because you thrill when he puts his arms around you?" will often open the way for analysis of the real satisfactions in their companionships. So too will frank but sympathetic comments on their suitability and the kind of influences they bring. Most boys and girls will appreciate being diplomatically headed off from going with the wrong crowd, and of the unappreciative, many are still open to persuasion. With all of these youth the coach without preaching or moralizing, can encourage many and a variety of them, and can build increasingly finer standards. In these respects the coach has opportunities that rarely come to parents, who so commonly do not know the associates of their children. Many coaches are alert to such opportunities.

Out of accidental meetings and acquaintances grow comradeships. Out of comradeships grow friendships. In the latter a wider range of interests and appeals bring boy and girl into closer relations, with an increase of shared experiences and deeply shared tastes and ideals. Friendship has character values of great moment to boys and girls expressed in teamwork, loyalties, unselfishness, sympathy, fair play, wishing the best for the other and ever striving to bring out that best—all of them qualities peculiarly needed in a marriage partnership. These qualities are not acquired by a marriage ceremony or by love or by books, but by living that calls them forth

and by persuasive interpretation of their real values.

Some of the early and callow friendships of youth may seem to the coach a far cry from the ideals noted above, but boy-girl friendships progress and the coach can do much for their progression. Youth need these character values analyzed not as abstractions-to-be-applied-if-remembered but as living characteristics of people who appeal. Loyalty that is active and admired sets an example of loyalty: "Peg is a peach. Never a murmur, no matter what the tough spots at home." So too with fair play: "You never heard Charles pull that one about every girl being able to look out for herself. He has a better sense of fair play." And: "John always leaves me with a feeling that I'm a finer person for being with him." Youth are quick to appreciate these values that tie friends together, and quick to realize their influence on conduct. In such and in many other

... the coach has opportunities that rarely come to parents ...

ways the coach can help an understanding of boy-girl friendships and through subtle influence and practical guidance can make or break them. Here again he has often a more strategic opportunity than parents, for he has before him a wider range of friendships from which to choose examples and to point out their aid or their damage to character.

STARVATION OF AFFECTIONS

AFFECTIONS are a natural part of comradeships and friendships, and hungers for affection are constantly seeking satisfaction. Though most children have learned through long experience in the home to associate affection with intimacy and not to express it openly except with their intimates, the codes of a petting crowd may break down these reserves and provide a most appealing combination of affectional outlet and adventure. If boy and girl are to be guided wisely in affectional expression, they need to have some knowledge of the emotional elements and drives that enter into it, and what are the border lines of self control.

Just as with comradeships and friendships, the coach can do much in guiding the affectional expression of high school boys and girls to wholesome outlets. His friendly queries about the why of their conduct will often furnish the reasoning element to youngsters who tend to be swept away by emotion. His attitudes and simple statements about the relation between affection and love and about their high values in happiness will help orient boys and girls who waver under the lure of sexual adventure.

To a lesser degree the same opportunities are provided the coach for guiding

the love experiences of boys and girls. He will need to understand some of the varied components of boy-girl love: attraction, hunger for affection, sex drive, mutual confidence, respect for personality, eagerness to be supreme in the life of another, the desire to bring out the best in another. Even though he realizes that a particular love affair is transitory, he can help boy and girl analyze the soundness of their bases for it and make it an uplifting experience on their way to mate-love. He can help them distinguish between emotional thrills and the more stable elements of love. Occasionally he can and should head off a love affair, especially when he sees that it will result in cheapened personalities and unhappiness.

BUT there are also special problems that the coach may help to solve. Probably the commonest is sexual vulgarity, expressed in crude talk and writing, smutty stories and double meanings. The contempt of the coach for such conduct as puerile, his refusal to indulge in it, and his repeated assertions about its doubtful value as a social asset, will do much to check it. He can set the example by the quality of his own speech, and encourage better conversation.

A second problem is masturbation, a practice rather common to early adolescent boys and usually outgrown in a few years. Apparently the physical effects of this practice are commonly not harmful, unless it becomes a long-continued habit, but the shames and fears connected with it may be serious. The coach can do much to allay these emotional disturbances, can speak of masturbation as a kid habit to be outgrown, and can give the boy absorbing activity outlets. He can direct the confirmed masturbator to a physician.

A less obvious problem but one fraught with serious possibilities is boy-girl teasing. Most of it is harmless and is part of the ordinary give and take of childhood. Occasionally, however, there appears a selfish and determined teaser, either boy or girl, who deliberately stirs emotions to the breaking point and ruthlessly exploits the other. Unless headed off, such a teaser may become a confirmed philanderer who wrecks ideals and hope of marriage.

Another problem, sometimes baffling, is that of the crush, where boy or girl lavishes affection upon one of the same sex, often to excess and to the annoyance of the recipient. Commonly such relations are soon outgrown. They usually arise from starved affections, lack of satisfactory experiences with the other sex and lack of opportunity to get oneself across with other people. Hence the basis for solving such problems lies in satisfying these adolescent needs. Occasionally, however, the adult who is involved likes and prolongs the relationship, and it may require the persuasive arts of coach and principal and friends to break up the affair, or may even demand the services of a psychiatrist.

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Orientation

(Continued from page 14)

exactly the opposite direction. Although the light conditions do not influence football players so frequently as they influence tennis players, the sun's rays may nevertheless play an important part in the play, and famous games have been lost and won by the dropping of a punt or the fumbling of a pass.

As the important playing hours for American football are almost universally restricted to certain definite afternoon hours during the months of October and November, the ideal orientation of football fields can be more accurately determined and a definite direction can be laid down for the orientation of any football gridiron in any given locality.

This fact has led to the preparation of the accompanying map, which shows the "iso-helial" lines, or lines of equal orientation for football fields in the United States. This map incorporates information which has been used in the writer's office for some years, and from this map the ideal direction of the minor axis of a football field located at any spot in the United States may be read directly and at a glance. The average playing periods upon which this map is based are from 2 p. m. to 4 p. m. between September 27 and November 27, and these include all important playing hours except an occasional game on Thanksgiving Day morning or an occasional post-season game in the South or on the Pacific Coast. Correction should of course be made for any exceptional circumstances, and interpolations may be readily made for sites located between the lines shown, the interval of which is 1 degree. The heavily shaded irregular lines are the boundaries of the various time belts, and the difference in orientation which is produced by one hour's difference in time (about 12 degrees) is clearly brought out.

BASEBALL

The game of baseball, although generally regarded as a "many-direction" game, in which every participant may at any time face a different direction, nevertheless has certain fixed directions for some of the most important features of the game. It is generally conceded that when the sun's rays are parallel to the line joining first base and third base, or perpendicular to the pitching lane, the lighting conditions are in general most desirable, and therefore the ideal orientation of any given diamond for any given playing period may be readily determined.

The annual playing period for school and college baseball players is radically different from that of professional baseball players. Many diamonds are used for each type of player. The professional baseball season extends generally from early April to early October, while the school and college baseball season generally terminates in June, but it happens, curiously enough, that both seasons usually begin on a date close to the date of the vernal equinox and each one ends on a date close to another critical point on the earth's

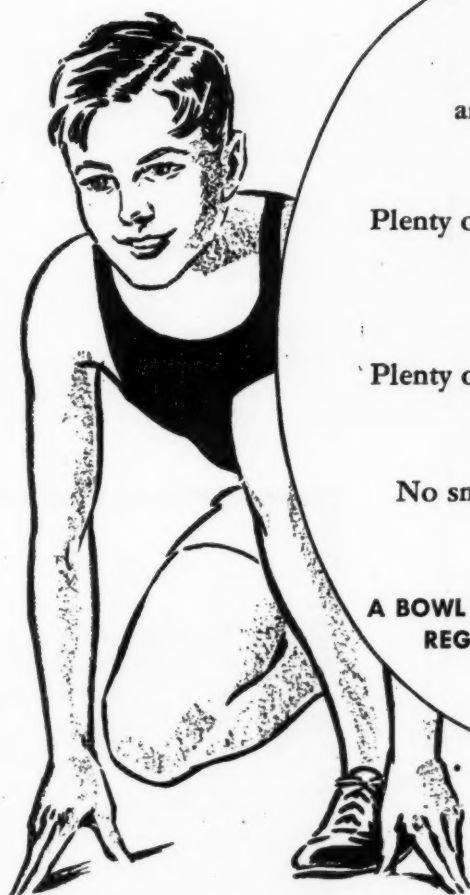
orbit: the autumnal equinox for the professional season and the summer solstice for the school and college season. The average direction of the sun's rays for any selected hours of the day between March 21 and September 21 is practically identical with the average direction for the same daily hours between March 21 and June 21. As the daily playing hours for the two types of players are substantially the same, usually between 3 p. m. and 5 p. m., the ideal orientation for one of these annual periods will be practically ideal for the other also.

The writer has taken advantage of these coincidences in preparing but one set of astronomical calculations and but one map of iso-helial lines for baseball fields in the United States, to serve for the determination of the ideal orientation, regardless of whether any given diamond is to be used by professional players or by school and college players. This map, which is somewhat similar in appearance to the football map, is also here reproduced, and the ideal orientation for a baseball diamond at any spot in the country may be read from it directly in a similar manner.

As a baseball field is not symmetrical about a line through first base and third base, there are two choices of orientation with ideal conditions for both, as indicated on the map to the right of the north arrow. Where spectators are to be provided for, however, there is some preference for the orientation with which the batter faces east of south, over the opposite orientation, as spectators generally show a slight preference for sitting along the first base line rather than along the third base line, and they will be generally more comfortable and have a better view of the play if they sit with the sun at their backs. For installations which include spectators' seats, therefore, this preferred orientation should be obtained wherever possible.

OTHER CONSIDERATIONS

For simplicity and clarity in explanation, the writer has sought in this discussion to isolate the subject of orientation from all other considerations affecting location and design of outdoor athletic facilities. Such isolation is of course actually impossible and it is therefore often impossible in practice to obtain in a given case an ideal orientation. The ideal itself, furthermore, may be influenced by physical conditions such as shadows thrown at certain stages of the sun by trees, hills, buildings, seating structures, etc. Other influencing conditions, such as boundaries or other physical restrictions of the site, will frequently prevent ideal light conditions, but it is always important to know accurately what the ideal direction would be and how far a given design will depart from it. Proper determination of the ideal orientation may well be a determining factor in the choice between two or more possible sites and has been so in numbers of cases within the writer's experience.



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PADDOCK WRITES IT OUT

(Continued from page 12)

and he was ready for the gun. The moment the gun sounded, the left foot pushed sharply against the back of the hole and shot forward with a tremendous kick which sent him almost at once into his full stride.

"A tall man may find it necessary to dig his first hole a little farther back of the line than Murchison, who is five feet seven. Some sprinters may also feel more comfortable with their starting holes closer together or farther apart than the distance suggested.

THE PICK-UP

"The moment a sprinter leaves his holes, his troubles begin. Almost all the great sprinters of the past have possessed the

is the theory that Frank Wykoff, the first man to ever run the hundred yards officially in the world's record time of 9 $\frac{1}{2}$ seconds, practiced. Wykoff is generally considered as being the greatest 'pick-up' artist yet developed. Indeed, when he started running, there were only three distinct parts to a hundred; the start, the stride and the finish. His clever way of pausing after he had come out of his holes created a fourth essential, namely, the 'pick-up.'

"Wykoff, at his best, won all of his races in the first forty yards. By taking his time to 'gather' at the beginning, he was able to drive forward at full speed and ran away from his field, gaining so much in the first



THE LUNGE FINISH . . . THE FAMOUS GERMAN SPRINTER, HUBER HOUBEN, IN "AS BEAUTIFUL A FORWARD LEAN AND LUNGE FINISH AS IT IS POSSIBLE TO OBTAIN. HIS LAST STRIDE IS THE PERFECTION OF FORM . . . A STRAIGHT LINE COULD BE DRAWN FROM HIS SHOULDER TO THE HEEL OF HIS REAR FOOT." From *Track and Field*, by Charles W. Paddock (A. S. Barnes & Co.).

universal fault of wanting to break into their full stride too quickly. It is the natural inclination of a born competitor out to beat his field. A long stride used too soon slows down a man's potential speed in much the same manner as that of an automobile which is started off in high gear.

"In trying to remedy this fault, many runners go to the other extreme. They chop their stride, and stay in 'low gear' too long . . . Again, it is a question of relaxation. In order to take advantage of the momentum of a good start, the athlete must pause for the fraction of a second after he has taken three or four starting steps, rise up slightly without breaking his forward lean, and then commence driving forward in a form which will soon carry him to his full speed and stride. This will take care of itself, if the sprinter will only take time enough to assume the right position. It is easy enough to write about, but I realize that it is difficult to do in a race where each instant is so precious. However, relaxation can be made a habit in practice to such an extent that it will become instinctive in competition.

"Striding out too soon is the same thing as 'pressing' a drive in golf. That, at least,

half that no one could overtake him before the finish line.

THE STRIDE

"In sprint running, that distance from the twenty-yard mark to within five yards of the finish line is referred to as 'the stride.' Since it covers the body of the race, its importance cannot be over-estimated. The length of a sprinter's stride depends upon his height and the amount of his natural spring. The stride should never be forced. Neither should it be shortened or 'chopped.'

"Standing five feet, eight inches, my own stride measured approximately eight and a half feet when I was running at top form. I did not have to strain in the least to cover this much ground on each step. It was simply a question of knee-lift. For many years, my stride was not long enough. After my start had smoothed out and my finish had been perfected, I improved upon my stride, and it enabled me to develop from a fair country sprinter into a record-breaker.

"My stride was increased in the following way:

"Three lanes were smoothed out so that each spike mark could be plainly seen for



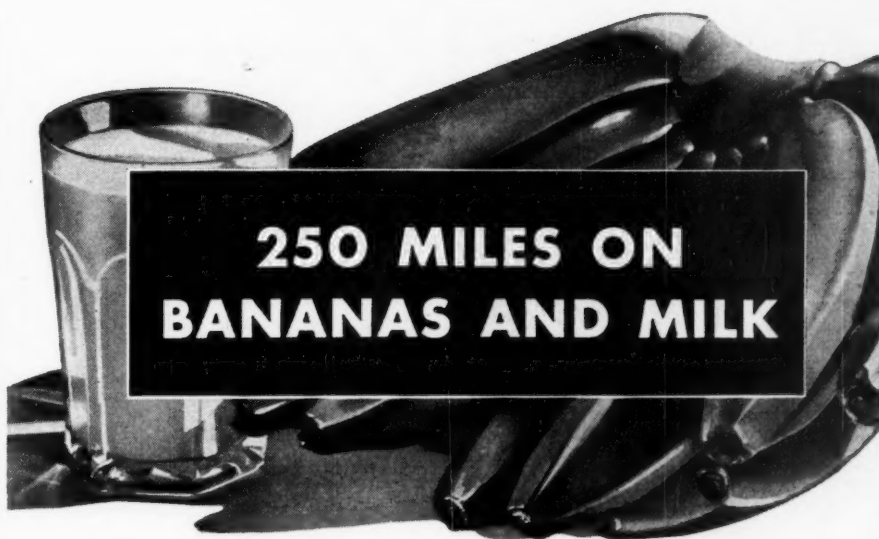
THE JUMP FINISH . . . PADDOCK BEARING DOWN ON THE TAPE FROM A HIGH STRIDE IN HIS SPECTACULAR JUMP FINISH. THE LEFT SHOULDER IS DRAWN BACK AS HE MAKES THE LEAP. Photograph from *Track and Field*, by Charles W. Paddock (A. S. Barnes & Co.)

a distance of approximately sixty yards. Starting holes were dug in all three lanes. Then I ran down lane one at full speed, using my regular stride. Lines were drawn across the lane where my spikes had hit the track. In the second lane, I ran not for speed, but for stride length. I tried to overstep the lines which had been drawn in lane one as much as possible. In the sixty yard distance, I saved myself three full strides. These spike marks were also lined off. Then in the third lane I attempted to combine the speed which I had displayed in the first with the stride length I had acquired in the second lane. Of course this was not possible the first time out, or the second, or the third, but there came a day when I was able to save myself two full strides in a hundred yards, or about seventeen feet, which means almost two-fifths of a second when running in record time.

"In order to make my legs strong enough to stand up under the strain of long strides, there were several exercises which I used. One is known as 'bounding,' and was employed as far back as 1900 by Arthur Duffey, of Boston, the first amateur sprinter to ever run the hundred in 9 $\frac{3}{4}$ seconds.

"Bounding is done by springing forward with the knee stiff, forcing the ball of the foot and the calf muscles to break the impact and rebound with enough force to send the runner forward into the next stride. A quarter of a mile of this exercise every day for a month develops the leg muscles to a point where they are strong enough to withstand almost any amount of strain.

"Another exercise known as jogging is equally important in building up muscle flexibility. Jogging as we know it today is the simple 'dog trot' that our fathers used as children to cover ground. Though the actual speed is no greater than a moder-



As published in Good Health Magazine, June, 1930

ALL the way from Oslo to Christianssand paced Otto Fipp, a Norwegian athlete. 250 miles! Four days and four nights. And ate nothing en route but bananas and milk.

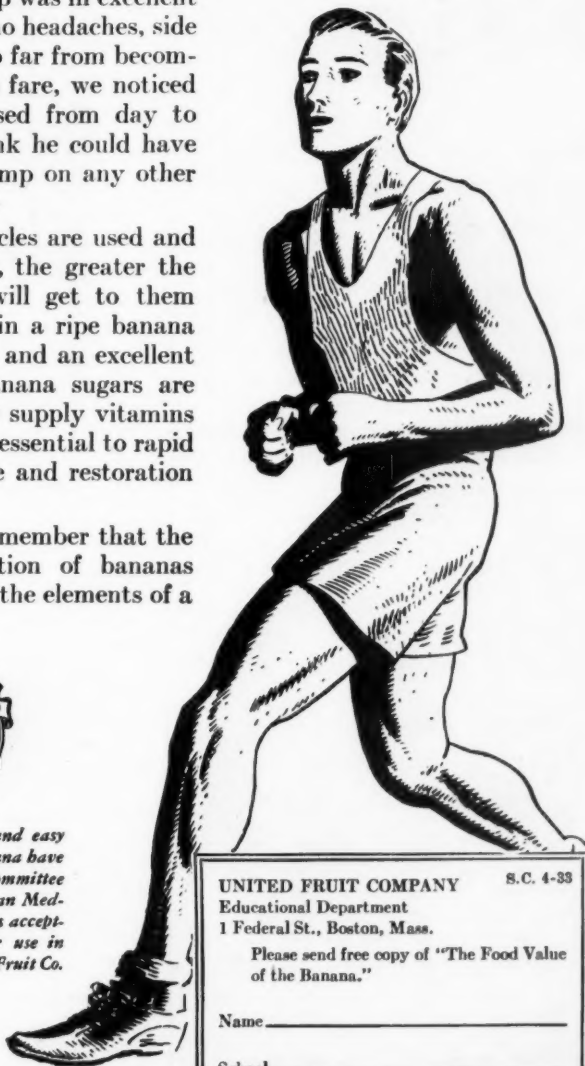
According to Dr. Rogler, who stop-watched the trip, Fipp was in excellent trim all the way . . . no headaches, side stitches, loginess. "So far from becoming weaker from this fare, we noticed how strength increased from day to day . . . I don't think he could have accomplished the tramp on any other fare."

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ately fast walk, the short steps taken provide more strenuous exercise, and a couple of miles of jogging each afternoon during early season practice is the greatest leg developer I know. It can be safely recommended to men and boys of all ages, and can be taken as strenuously as its devotee may desire.

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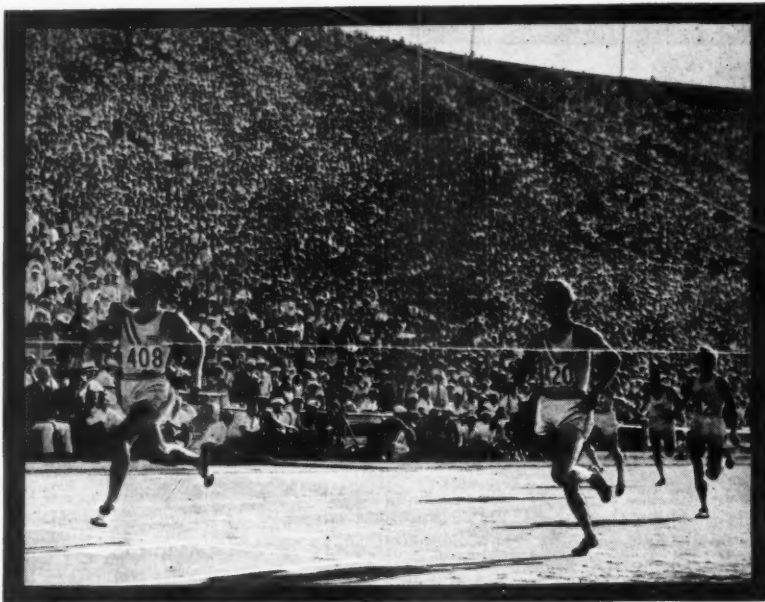
"Besides 'bounding' and 'jogging,' there are a few simple exercises which go with them hand in hand as a means of getting into and then maintaining perfect physical condition. They consist of leg movements which may be taken before you get out of bed in the morning, and which strengthen

faster. They literally hurl their bodies across the last few yards and into the string. A few consciously 'gather' for the final effort.

"This is done by driving harder with the arms which automatically makes the legs pull with greater force. One side of the body is thrown forward, and this also increases the momentum, if the athlete is careful not to lose either his natural rhythm or his balance.

"The 'gather' is of the mind, as well as of the body. In a measure, it has no proper place in sprinting, just as the 'jump finish' is a rank impostor. But those who refuse to lose, and by sheer will power put every ounce of last remaining energy into the 'gather,' find it extremely helpful. It has nothing to do with the finish proper.

THE LUNGE FINISH—"In the old days runners finished any way they could. The main point was to get there, and form had little enough to do with it. As sprinting developed into more and more of a science,



BILL CARR (408) WHO RECENTLY BROKE BOTH HIS ANKLES (SEE NEWS ITEM ON PAGE 11) DEFEATING BEN EASTMAN (420) IN THE OLYMPIC 400-METER FINAL. PADDOCK SAYS: "CARR IS USING A SMOOTH, POWERFUL STRIDE ACTION, WHILE EASTMAN, THOUGH STILL MAINTAINING A GOOD FORWARD LEAN, IS COMMENCING TO TIE UP. HIS LEGS ARE TAKING ABOUT HALF THEIR NORMAL STRIDE." RACE RUN IN WORLD RECORD TIME OF 46.2s.

the stomach muscles, tend to remove surplus fat where it is most likely to accumulate, and keep the legs in the best of condition.

"Lying flat on your back, with your hands at your sides, raise the right leg and bring your knee up as far as possible. Then kick your foot into the air and lower your leg slowly onto the bed again. Do this ten times with each leg, and then ten times with both legs. Rest for a moment, then raise your legs alternately as high as possible, keeping the knee stiff and letting the leg down slowly. Follow this by bringing up both legs, with knees stiff, as high as possible, and letting them down slowly ten times.

THE GATHER AND FINISH

"When sprinters approach the finish tape, they instinctively fight harder. Some lose all semblance of running form, tie themselves into knots, and cut down both their stride and their speed. Others in extending their efforts force themselves to go

two forms of finishing a race came to be universally recognized.

"The first was labeled as the 'lunge.' It consisted of throwing the arms far back and the chest out on the final stride. This arm action gave the body a better forward lean than the natural stride accomplished, and those who used it discovered that they could beat men of equal speed a clear foot in the final yard. Arthur Duffey was one of the first to scientifically use it. The Boston boy employed the lunge in a race against Bernie Wefers, of the New York Athletic Club, who was American Champion in 1895-96-97, and he won by the width of a hand. Wefers saw the advantage of the lunge, and at once set out to improve upon this method of finishing, if possible. And his studies resulted in the introduction of a still better style.

THE SHRUG FINISH—"This new finish was soon known as the 'shrug' and it was accomplished by throwing the side of the body into the string with one arm held

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high, and the other pulled back behind the body. The forward lean of the 'lunge' was maintained in the 'shrug,' but the tape could be broken six inches sooner, since the side of the body can be brought that much nearer the string than the chest.

"The stride pull of one arm is of course far more effective than allowing both arms to be held behind the body without action, as in the 'lunge.' This 'shrug' finish first perfected by Bernie Wefers has grown in popularity during the last thirty years until today it is in general use by a majority of the best sprinters throughout the world. Such great champions as Jackson V. Scholz, of Missouri University; Morris Kirksey, of Stanford, and Ralph Metcalfe, of Marquette, have used it to best advantage. Before I had been sprinting long enough to appreciate the merits of these two finish forms, I had adopted one of my own that I do not recommend, for the majority of young runners, but which can be of great aid to those who possess an abundance of natural spring and a high knee-lift.

THE JUMP FINISH—"It is generally referred to as the 'jump finish.' I first came to use it in 1916, after the California State Championships of that year. Just as I had finished the hundred yards in this meet, I saw out of the corner of my eye a high school competitor, who had been running in fourth or fifth place, suddenly make a frantic leap into the air, as some wild animal might instinctively have done, and land in second place. As a matter of fact, if I had not already broken the tape, that boy would have won.

"The jump he had employed, made me think. I appreciated that he had thrown his body forward without thought, but if such results could be obtained with hazard form, it seemed reasonable to me that a scientific method of jumping for the string might be developed. I therefore set out to perfect what was to be later known as the 'jump finish.'

"A large number of backhanded compliments have been tossed at this jump, which I used throughout my sprinting career. It has been referred to as 'grandstand play' and the 'freak finish of a freak performer.' I realize that the latter phrase

(Continued on page 30)

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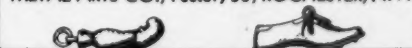


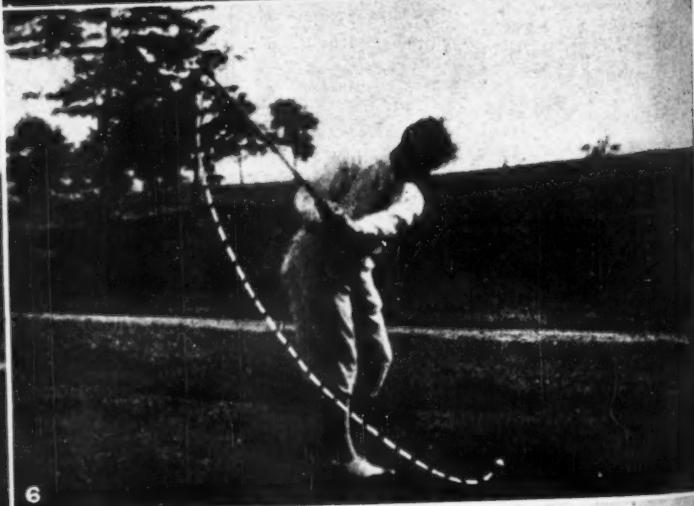
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TEACHING GOLF

By BILL JONES

AFTER you have drilled a class in the half swing for a time, you will probably notice that as your pupils become more proficient in its accomplishment they will unwittingly begin to lengthen the half swing into a three-quarter or even a full swing. This growth, if natural and unforced, is a sure indication that the foundation of the swing has begun to set and that your pupils are ready for and capable of handling a longer swing.

This growth or lengthening of the swing must not however, be hurried. Too often pupils are over-ambitious and are inclined to slur over the foundation stroke in their eagerness to take a full swing at the ball. Unless you are quite certain that the half swing has securely taken root, under no circumstances permit any increase in the arc of the stroke.

If your pupils are thoroughly grounded in the fundamentals you have taught them, the full swing will present no serious difficulties. You may be sure that if Johnny Smith has trouble with the full swing it is usually because he has not learned properly the half swing. If his half swing does look fairly presentable and he still has trouble with the full swing, he is probably trying to "kill" the ball by lunging or stabbing at it. Keep uppermost in his mind the idea of swinging the club rather than any thought of hitting the ball. Young America often cannot at once realize the difference between these two mental viewpoints, and I can only advise you to be patient. Sooner or later the idea will burst upon his intelligence with a great light and a large part of your trouble will be over.

While it is better to permit each of your pupils some liberty in developing his own natural swing, you should have a clear mental picture of the correct golf swing so that you can check him if he should stray too far from the orthodox. The motion pictures of the back swing of Bobby Jones reproduced on the opposite page* are unique inasmuch as they are the first pictures ever published that show clearly the path of the club-head throughout the swing. Study these pictures carefully, impress each detail on your mind, and by comparing your pupils' swings with your mental picture of the correct swing, you will be able to diagnose faults and point out their remedies. The pictures

show the back swing of a three quarter swing.

PICTURE 1. The address. Note the forward bend of the body, described fully in the February Scholastic Coach. Arms and knees are relaxed. Right shoulder down, indicating more weight on right leg than left.

PICTURE 2. The back swing starts. The club head is moving in a curve away from the ball and not in a straight line. The club is being swung with the arms and shoulders, no wrist action being apparent. This is important, as many beginners are prone to start the back swing by picking up the club with the wrists. There has been very little if any hip action.

PICTURE 3. Continuing the action started in 2. The hips are now turning with the rest of the body and the left knee is being pulled in toward the right. The left heel is leaving the ground. There is still no wrist movement. The right arm is bent at the elbow.

PICTURE 4. By comparing Bobby's head with the ball in the background, and referring to Picture 1, you can see that he has not lifted it in the slightest degree, indicating that his body is still bent. In this picture the hip turn continues and there is yet very little wrist movement. The left shoulder is coming around to the front and is starting its dip.

PICTURE 5. This picture shows quite clearly the roll of the forearm with a little wrist break. The entire body is now turning away from the ball and as a consequence the left knee is continuing its bend toward the right. The left knee must not be permitted to break forward toward the ball—always to the right. Note that the weight of the body has settled rather firmly on the right hip. The right arm is being held snugly against the right side and the left arm is close to the chest. This position is that of the chip shot described last month.

PICTURE 6. The path of the club head is now definitely upward, rather than around. The body, however, continues its turning, or pivoting as it is popularly termed. The left shoulder is still going down and the body remains bent.

PICTURE 7. Nearing the top of the swing. The left shoulder has ceased its downward movement and is now turning. The weight of the body has now settled almost entirely on the

right hip. Note, however, that the right knee has not straightened from its relaxed position in Picture 1. The forearms are still rolling and the shoulders have made almost a complete turn. The right arm is being pulled away from the side.

PICTURE 8. The top of the back swing (for a three-quarter shot). Weight entirely on the right hip. Left knee completely relaxed. The right arm has been pulled definitely away from the side. The shoulders have completed their full turn and his back is presented to the player's objective. The body is still bent forward at the waist.

From this point in the three-quarter swing to a similar point in the full swing is a matter only of permitting the club head to drop down beyond the player's head. This additional movement is that mysterious, "cocking of the wrists" about which we hear so much. It is purely a natural movement and any full swing has it. If your pupils never hear of "wrist cocking" it will be soon enough.

You may have noticed the emphasis I placed on "turning the hips" and "turning the shoulders" in my synopsis. A quite common fault in golfers is a lateral shifting of the hips toward the right on the back swing. Such a movement is incorrect and unnatural, and you should take every precaution to prevent the formation of that habit. The pictures do not show the absence of any lateral movement as clearly as a front view of the swing would. The pivot is a turn, pure and simple.

Every picture of this series tells a story and deserves careful study. I have touched only the more important features. I do not, however, want you to get the impression that unless your pupils swing exactly like Bobby Jones their swings are necessarily incorrect. The swing pictured here is the swing of Bobby Jones and his only. Walter Hagen's swing would differ in certain respects. So would Gene Sarazen's and so probably will your pupil's, Johnny Smith. This difference in golf swings can be attributed to several things, weight, height, build, temperament, age, etc. Give your pupils latitude enough to develop their own individual swings, subject only to the limitations imposed by the various fundamentals, which must be observed at all costs.

In the May issue of Scholastic Coach the sequel to this series of pictures, showing the down swing and finish, will be published and described.

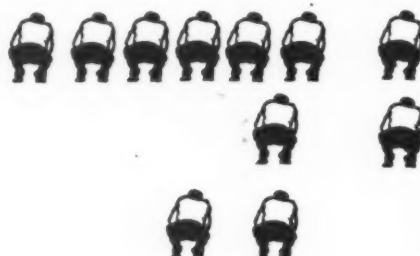
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PADDOCK

(Continued from page 27)

has a certain amount of truth in it. I also recognize that few can use the jump to advantage. It requires that the sprinter run high 'bounding' along. He must come down on the tape, gaining in speed and momentum as he makes his last leap, which, after all, is nothing more nor less than an exaggerated final stride, varying in length from ten to fourteen feet.

"The man who runs low and tries to use the jump, naturally goes up in the air and then comes down on the string, forming an arc as he leaps, losing rather than gaining. I have suffered from this mistake, but the jump has won so many more races for me than it has lost that I can do no less than suggest it to the sprinter who runs high and has the patience to learn it, and the courage to use it.

BREATHING

"Just before jumping for that finish tape, it was my custom to take a deep breath. I felt that filling my lungs with fresh air just before my last effort buoyed me up, and made me lighter. Perhaps it was in my mind, but I am convinced that it was helpful.

"This is the only breath that I was conscious of taking in a hundred yard race. I always made it a point to breathe naturally and easily before coming to the 'set' position, and when this command was given, I took a deep breath, and held it until the gun was fired. After that I never felt the need of a second breath until I was almost on the finish string.

"Some sprinters are in the habit of breathing regularly throughout a race. This is well enough for longer distances than a hundred yards, but when a man is running for approximately ten seconds, he is seldom able to breathe regularly. He either takes a series of sharp breaths, which do him no good, or else he must train himself to fill his lungs once or twice to capacity, and then derive the true benefit of deep breathing.

ARM ACTION

"Even more important in sprinting than proper breathing, is correct arm action. So often you see runners either allowing their arms to swing uselessly at their sides, or else pumping them so furiously that the action is as much rearward as it is forward.

"In sprinting, the arms should never be swung farther back than the side of the body. From the time the hand goes behind the back until it reaches the side again, it is a severe handicap, retarding speed instead of increasing it. Neither should the hands be raised too high on the forward swing. The arm should be bent at the elbow, and the muscles kept in a relaxed state.

"However, each arm should be driven with the same force as each leg, and alternately. That is to say, the right arm should move out with the left leg, going up until the foot has hit the track, and then as the leg is driven hard the arm should be pulled back at the same time with every ounce of strength which the runner can muster.

LONGER SPRINTS

"Distances beyond the hundred yards, up to and including the three hundred,

are run in much the same manner as races shorter than a hundred. The same essentials are necessary in the matter of form.

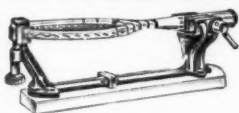
"Stride, of course, plays a more important part in the standard 220 or 300 yard races. After a fast start and a good pick-up, a man should learn to 'coast' or 'float,' once his momentum has been gathered. He can run just as fast with a long, easy swinging stride as he can with a short, choppy driving one. The former conserves both his speed and his strength so that he is able to pour on the power in the last twenty yards. The longer one waits to give that last great effort in a 220 or 300 yard sprint, the better off he is. The exact moment when a sprinter should 'jump' his field by unleashing his final ounce of energy and speed is one which the competitor himself must determine. It is dependent upon what has already occurred, and his own limitations.

"No greater master of the art of 'jumping' his field ever ran than Jackson V. Scholz,* and he did not learn how until he had been competing for almost ten years. After once gaining his momentum in the 220, Scholz would float along watching his opponents. He did not care to take the lead in the first half, but stayed at the shoulder of the leaders, allowing them to pull him out.

"Scholz learned how to 'jump' an opponent on the practice field. He would stride along easily, and then suddenly unleash his best efforts for a few yards, gradually dropping back into his three-quarter speed again, resting for a few yards before making another burst. This is one of the hardest of all exercises but it is a magnificent developer of wind, leg strength and coordination."

*Olympic 100-meter champion, 1924.

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Originality of entries must be certified by the teacher. Each entry should have the home address of both the student and the teacher. Announcement of winners will be made in the May 27th issue of Scholastic. Contest is open to any undergraduate in a junior or senior high school.

A Century of Progress, Chicago's 1933 World's Fair, will be one of the great events of the year. Students may submit as many letters, themes, or essays as they desire.

JUDGES: Dr. James Alton James, of Northwestern University; E. T. Filbey, Asst. to President of University of Chicago; Dr. Allen D. Albert, Asst. to President of A Century of Progress; K. M. Gould, Managing Editor of Scholastic.

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Track

(Continued from page 20)

on the field they start taking their calisthenics. You can see them at their favorite spots lying on the grass, raising their legs, or standing up doing bending exercises, or any others they have selected to engage in.

On Monday I get the broad jumpers together and have them go through their take-offs; next I call the entire squad in one group and give them all starts. Then the runners take their work, after which I work the pole vaulters, and finally the hurdlers, finishing the afternoon with rather interesting work with the novices who come out late. Tuesday every man on the squad goes through three 220s. Sometimes I time them but more often let them do their work themselves. This permits me to spend all my time coaching the high-jumpers, broad-jumpers, shot-putters, and low-hurdlers. Wednesday's program is practically the same as Monday's.

To what extent a track man ought to participate in other sports I should hesitate to venture an opinion. There are always certain boys who, in order to be happy, must have an athletic contest each week end. Irving Warburton, the spark plug on the University of Southern California football team last fall, while at San Diego High School was such an athlete. He played football, basketball, track, and baseball. I watched him play a baseball game on Friday, the day before the state meet in which he ran the hundred, 440 and relay, and I predicted that he would be a flop in the meet the following day. But on the contrary he performed marvelously. I suspect Warburton would have been a greater track man had he concentrated upon it, but his broad athletic program may have been more worth while. From a coaching standpoint, though, I prefer a boy who does track only. He will work on form because he has more time. Incidentally he can spend the remainder of the year building up reserve which will be of value to him.

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